GeneticSharp.Domain Namespace

Genetic Sharp

GeneticSharp domain model.

Classes

	Class	Description
4	GeneticAlgorithm	A genetic algorithm (GA) is a search heuristic that mimics the process of natural selection. This heuristic (also sometimes called a metaheuristic) is routinely used to generate useful solutions to optimization and search problems.[1] Genetic algorithms belong to the larger class of evolutionary algorithms (EA), which generate solutions to optimization problems using techniques inspired by natural evolution, such as inheritance, mutation, selection, and crossover. Genetic algorithms find application in bioinformatics, phylogenetics, computational science, engineering, economics, chemistry, manufacturing, mathematics, physics, pharmacometrics, game development and other fields.

Interfaces

	Interface	Description
~ 0	IGeneticAlgorithm	Defines a interface for a genetic algorithm.

Enumerations

Enumeration	Description
GeneticAlgorithmState	The possible states for a genetic algorithm.

GeneticAlgorithm Class

GeneticSharp

A genetic algorithm (GA) is a search heuristic that mimics the process of natural selection. This heuristic (also sometimes called a metaheuristic) is routinely used to generate useful solutions to optimization and search problems.[1] Genetic algorithms belong to the larger class of evolutionary algorithms (EA), which generate solutions to optimization problems using techniques inspired by natural evolution, such as inheritance, mutation, selection, and crossover. Genetic algorithms find application in bioinformatics, phylogenetics, computational science, engineering, economics, chemistry, manufacturing, mathematics, physics, pharmacometrics, game development and other fields. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain GeneticAlgorithm

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

GeneticAlgorithm Members GeneticSharp.Domain Namespace

The GeneticAlgorithm type exposes the following members.

Constructors

	Name	Description
≡	GeneticAlgorithm	Initializes a new instance of the GeneticAlgorithm class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
**	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=	Resume	Resumes the last evolution of the genetic algorithm. Remarks If genetic algorithm was not explicit Stop (calling Stop method), you will need provide a new extended Termination.
≡	Start	Starts the genetic algorithm using population, fitness, selection, crossover, mutation and termination configured.
≡	Stop	Stops the genetic algorithm
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Fields

	Name	Description
₽ S	DefaultCrossoverProbability	The default crossover probability.
øs	DefaultMutationProbability	The default mutation probability.

Back to Top

Properties

Name	Description
BestChromosome	Gets the best chromosome.
Crossover	Gets the crossover operator.
CrossoverProbability	Gets or sets the crossover probability.
Fitness	Gets the fitness function.
GenerationsNumber	Gets the generations number.
IsRunning	Gets a value indicating whether this instance is running.
Mutation	Gets the mutation operator.
MutationProbability	Gets or sets the mutation probability.
Population	Gets the population.
Reinsertion	Gets or sets the reinsertion operator.
Selection	Gets the selection operator.
State	Gets the state.
TaskExecutor	Gets or sets the task executor which will be used to execute fitness evaluation.
Termination	Gets or sets the termination condition.
TimeEvolving	Gets the time evolving.

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Events

	Name	Description
3	GenerationRan	Occurs when generation ran.

| TerminationReached | Occurs when termination reached.

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See Also

GeneticAlgorithm Class GeneticSharp.Domain Namespace

Initializes a new instance of the Genetic Algorithm class.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The chromosomes population.

fitness

Type: GeneticSharp.Domain.Fitnesses IFitness

The fitness evaluation function.

selection

Type: GeneticSharp.Domain.Selections ISelection

The selection operator.

crossover

Type: GeneticSharp.Domain.Crossovers ICrossover

The crossover operator.

mutation

Type: GeneticSharp.Domain.Mutations IMutation

The mutation operator.

See Also

GeneticAlgorithm Class GeneticAlgorithm Members GeneticSharp.Domain Namespace

GeneticAlgorithm Fields

Genetic Sharp

The GeneticAlgorithm type exposes the following members.

Fields

	Name	Description
₽ S	DefaultCrossoverProbability	The default crossover probability.
₽ S	DefaultMutationProbability	The default mutation probability.

Back to Top

See Also

GeneticAlgorithm Class GeneticSharp.Domain Namespace

GeneticAlgorithm DefaultCrossoverProbabilityGeneticS **Field**

The default crossover probability.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Field Value

Type: Single

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm DefaultMutationProbabilityGeneticSh Field

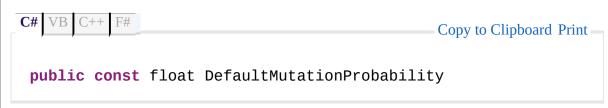
The default mutation probability.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434





Field Value

Type: Single

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

The GeneticAlgorithm type exposes the following members.

Methods

	Name	Description	
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
· · · · · · · · · · · · · · · · · · ·	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)	
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	Resume	Resumes the last evolution of the genetic algorithm. Remarks If genetic algorithm was not explicit Stop (calling Stop method), you will need provide a new extended Termination.	
≡	Start	Starts the genetic algorithm using population, fitness, selection, crossover, mutation and termination configured.	
=0	Stop	Stops the genetic algorithm	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

Back to Top

See Also

GeneticAlgorithm Class GeneticSharp.Domain Namespace

GeneticAlgorithm Resume Method

GeneticSharp

Resumes the last evolution of the genetic algorithm.

Remarks

If genetic algorithm was not explicit Stop (calling Stop method), you will need provide a new extended Termination.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public void Resume()</pre>	

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Start Method

GeneticSharp

Starts the genetic algorithm using population, fitness, selection, crossover, mutation and termination configured.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public void Start()</pre>	

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Stop Method

GeneticSharp

Stops the genetic algorithm..

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

The GeneticAlgorithm type exposes the following members.

Properties

Name	Description	
BestChromosome	Gets the best chromosome.	
Crossover	Gets the crossover operator.	
CrossoverProbability	Gets or sets the crossover probability.	
Fitness	Gets the fitness function.	
GenerationsNumber	Gets the generations number.	
IsRunning	Gets a value indicating whether this instance is running.	
Mutation	Gets the mutation operator.	
MutationProbability	Gets or sets the mutation probability.	
Population	Gets the population.	
Reinsertion	Gets or sets the reinsertion operator.	
Selection	Gets the selection operator.	
State	Gets the state.	
TaskExecutor	Gets or sets the task executor which will be used to execute fitness evaluation.	
Termination	Gets or sets the termination condition.	
TimeEvolving	Gets the time evolving.	

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See Also

GeneticAlgorithm Class GeneticSharp.Domain Namespace

GeneticAlgorithm BestChromosome Property

Genetic Sharp

Gets the best chromosome.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IChromosome BestChromosome { get; }
```

Property Value

Type: IChromosome
The best chromosome.
Implements

IGeneticAlgorithm BestChromosome

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Crossover Property

GeneticSharp

Gets the crossover operator.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public ICrossover Crossover { get; set; }
```

Property Value

Type: ICrossover
The crossover.

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm CrossoverProbability Property

GeneticSharp

Gets or sets the crossover probability.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public float CrossoverProbability { get; set; }
```

Property Value

Type: Single

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Fitness Property

GeneticSharp

Gets the fitness function.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IFitness Fitness { get; private set; }

Property Value
Type: IFitness
```

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm GenerationsNumber Property

GeneticSharp

Gets the generations number.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public int GenerationsNumber { get; }
```

Property Value

Type: MInt32

The generations number.

Implements

IGeneticAlgorithm GenerationsNumber

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm IsRunning Property

GeneticSharp

Gets a value indicating whether this instance is running.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print public bool IsRunning { get; }
```

Property Value

Type: Boolean

true if this instance is running; otherwise, false.

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Mutation Property

GeneticSharp

Gets the mutation operator.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public IMutation Mutation { get; set; }

Property Value
Type: IMutation
```

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm MutationProbability Property

GeneticSharp

Gets or sets the mutation probability.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public float MutationProbability { get; set; }
```

Property Value

Type: Single

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Population Property GeneticSharp

Gets the population.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public Population Population { get; private set; }
```

Property Value

Type: Population
The population.

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Reinsertion Property GeneticSharp

Gets or sets the reinsertion operator.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IReinsertion Reinsertion { get; set; }
```

Property Value

Type: IReinsertion

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Selection Property

GeneticSharp

Gets the selection operator.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public ISelection Selection { get; set; }

Property Value
Type: ISelection

See Also

GeneticAlgorithm Class
GeneticAlgorithm Members
GeneticSharp.Domain Namespace
```

GeneticAlgorithm State Property

GeneticSharp

Gets the state.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                 Copy to Clipboard Print —
 public GeneticAlgorithmState State { get; private set; }
```

Property Value

Type: GeneticAlgorithmState

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm TaskExecutor Property GeneticSharp

Gets or sets the task executor which will be used to execute fitness evaluation.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                   Copy to Clipboard Print —
  public ITaskExecutor TaskExecutor { get; set; }
Property Value
Type: ITaskExecutor
See Also
GeneticAlgorithm Class
```

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Termination Property GeneticSharp

Gets or sets the termination condition.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public ITermination Termination { get; set; }

Property Value

Types ITermination
```

Type: ITermination

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm TimeEvolving Property GeneticSharp

Gets the time evolving.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                    Copy to Clipboard Print —
  public TimeSpan TimeEvolving { get; private set; }
Property Value
```

Type: TimeSpan

Implements

IGeneticAlgorithm TimeEvolving

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithm Events

Genetic Sharp

The GeneticAlgorithm type exposes the following members.

Events

	Name	Description
4	GenerationRan	Occurs when generation ran.
3	TerminationReached	Occurs when termination reached.

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See Also

GeneticAlgorithm Class GeneticSharp.Domain Namespace

GeneticAlgorithm GenerationRan Event GeneticSharp

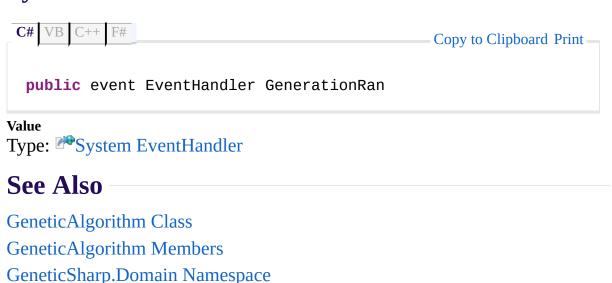
Occurs when generation ran.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



GeneticAlgorithm TerminationReached Event

GeneticSharp

Occurs when termination reached.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Value

Type: System EventHandler

See Also

GeneticAlgorithm Class

GeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticAlgorithmState Enumeration

GeneticSharp

The possible states for a genetic algorithm.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Members

Member name	Value	Description
NotStarted	0	The GA has not been started yet.
Started	1	The GA has been started and is running.
Stopped	2	The GA has been stopped ans is not running.
Resumed	3	The GA has been resumed after a stop or terminantion reach and is running.
TerminationReached	4	The GA has reach the termination condition and is not running.

See Also

GeneticSharp.Domain Namespace

IGeneticAlgorithm Interface

GeneticSharp

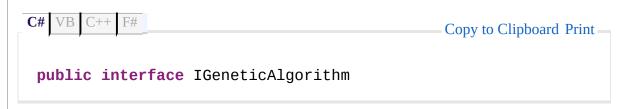
Defines a interface for a genetic algorithm.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IGeneticAlgorithm Members GeneticSharp.Domain Namespace

IGeneticAlgorithm Members

Genetic Sharp

The IGeneticAlgorithm type exposes the following members.

Properties

Name	Description
BestChromosome	Gets the best chromosome.
GenerationsNumber	Gets the generations number.
TimeEvolving	Gets the time evolving.

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See Also

IGeneticAlgorithm Interface GeneticSharp.Domain Namespace

IGeneticAlgorithm Properties

GeneticSharp

The IGeneticAlgorithm type exposes the following members.

Properties

	Name	Description	
		Gets the best chromosome.	
		Gets the generations number.	
	TimeEvolving	Gets the time evolving.	

Back to Top

See Also

IGeneticAlgorithm Interface GeneticSharp.Domain Namespace

IGeneticAlgorithm BestChromosome Property

GeneticSharp

Gets the best chromosome.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>IChromosome BestChromosome { get; }</pre>	

Property Value

Type: IChromosome
The best chromosome.

See Also

IGeneticAlgorithm Interface IGeneticAlgorithm Members GeneticSharp.Domain Namespace

IGeneticAlgorithm GenerationsNumber Property

GeneticSharp

Gets the generations number.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>int GenerationsNumber { get; }</pre>	

Property Value

Type: Int32

The generations number.

See Also

IGeneticAlgorithm Interface

IGeneticAlgorithm Members

GeneticSharp.Domain Namespace

IGeneticAlgorithm TimeEvolving Property GeneticSharp

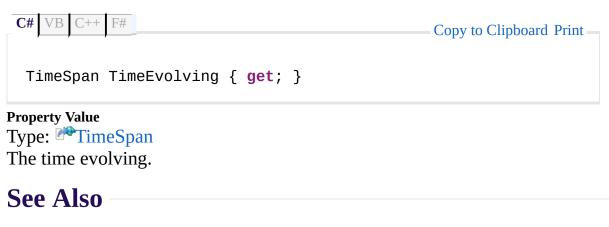
Gets the time evolving.

Namespace: GeneticSharp.Domain

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



IGeneticAlgorithm Interface

IGeneticAlgorithm Members

GeneticSharp.Domain Namespace

GeneticSharp.Domain.Chromosomes Namespace

Genetic Sharp

Models for chromosomes and genes.

Classes

	Class	Description	
4 \$	ChromosomeBase	A base class for chromosomes.	
* \$	ChromosomeExtensions	Chromosome extensions.	

Structures

		Structure	Description
	>	Gene	Represents a gene of a chromosome.

Interfaces

	Interface	Description
o ~ O	IChromosome	Defines an interface for a chromosome.
		Remarks
		In genetic algorithms, a chromosome (also sometimes called a genome) is a set of parameters which define a proposed solution to the problem that the genetic algorithm is trying to solve. The chromosome is often represented as a simple string, although a wide variety of other data structures are also used. http://en.wikipedia.org/wiki/Chromosome_(genetic_algorithm)
»-O	IChromosomeOperator	Defines a basic interface for operators which works with chromosomes.

ChromosomeBase Class

GeneticSharp

A base class for chromosomes.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Chromosomes ChromosomeBase

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

See Also

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Members

The ChromosomeBase type exposes the following members.

Constructors

	Name	Description
<u></u>		Initializes a new instance of the ChromosomeBase class. The length, in genes, of the chromosome.

Back to Top

Methods

	Name	Description
≡	Clone	Creates a clone.
≡	CompareTo	Compares the current object with another object of the same type.
≡	CreateNew	Creates a new chromosome using the same structure of this.
≡	Equals	Determines whether the specified Object is equal to the current ChromosomeBase. (Overrides Object Equals(Object).)
*	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GenerateGene	Generates the gene for the specified index.
≡	GetGene	Gets the gene in the specified index.
≡	GetGenes	Gets the genes.
≡	GetHashCode	Returns a hash code for this instance. (Overrides Object GetHashCode .)
=0	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
ē ·	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ReplaceGene	Replaces the gene in the specified index.
≡	ReplaceGenes	Replaces the genes starting in the specified index.
≡	Resize	Resizes the chromosome to the new length.
≡		Returns a string that represents the current object.

ToString	(Inherited from Object.)

Back to Top

Operators

	Name	Description
(<u>/-</u> =+) S	Equality	
(/ <u>-</u> =+) S	GreaterThan	
(/ <u>-</u> =+) S	Inequality	
(/ <u>-</u> =+) S	LessThan	

Back to Top

Properties

	Name	Description
	Fitness	Gets or sets the fitness of the chromosome in the current problem.
	Length	Gets the length, in genes, of the chromosome.

Back to Top

See Also

ChromosomeBase Class

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Constructor

GeneticSharp

Initializes a new instance of the ChromosomeBase class. The length, in genes, of the chromosome.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected ChromosomeBase(
    int length
)
```

Parameters

length

Type: System Int32

[Missing <param name="length"/> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase#

"M: Genetic Sharp. Domain. Chromosomes. Chromosome Base. #ctor (System. Int 32)"]

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

The ChromosomeBase type exposes the following members.

Methods

	Name	Description
≡	Clone	Creates a clone.
=	CompareTo	Compares the current object with another object of the same type.
≡	CreateNew	Creates a new chromosome using the same structure of this.
≟	Equals	Determines whether the specified Object is equal to the current ChromosomeBase. (Overrides Object Equals(Object).)
Ģ [®]	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GenerateGene	Generates the gene for the specified index.
≡	GetGene	Gets the gene in the specified index.
=	GetGenes	Gets the genes.
≡	GetHashCode	Returns a hash code for this instance. (Overrides Object GetHashCode .)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ē 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
= 	ReplaceGene	Replaces the gene in the specified index.
= 	ReplaceGenes	Replaces the genes starting in the specified index.
≡	Resize	Resizes the chromosome to the new length.
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

ChromosomeBase Class

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Clone Method

GeneticSharp

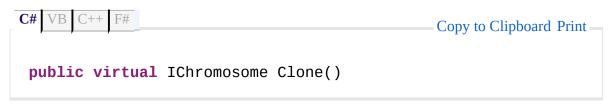
Creates a clone.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: IChromosome

[Missing <returns> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.Clone"]

Implements

IChromosome Clone

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase CompareTo Method

GeneticSharp

Compares the current object with another object of the same type.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase CreateNew Method

GeneticSharp

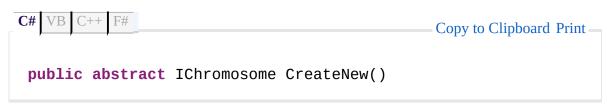
Creates a new chromosome using the same structure of this.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: IChromosome

The new chromosome.

Implements

IChromosome CreateNew

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Equals Method

GeneticSharp

Determines whether the specified **Object** is equal to the current ChromosomeBase.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public override bool Equals(
Object obj
)
```

Parameters

obi

Type: System Object

The Object to compare with the current ChromosomeBase.

Return Value

Type: **Boolean**

true if the specified ***Object** is equal to the current ChromosomeBase; otherwise, false.

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase GenerateGene Method GeneticSharp

Generates the gene for the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public abstract Gene GenerateGene(
    int geneIndex
)

Parameters

geneIndex

Type: System Int32

Gene index.
```

Return Value

Type: Gene

The gene.

Implements

IChromosome GenerateGene(Int32)

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase GetGene Method

GeneticSharp

Gets the gene in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public Gene GetGene(
   int index
)

Parameters

index
```

Type: System Int32

Index.

Return Value

Type: Gene

The gene. Implements

IChromosome GetGene(Int32)

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase GetGenes Method

GeneticSharp

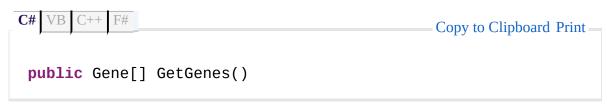
Gets the genes.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Gene

The genes.

Implements

IChromosome GetGenes

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase GetHashCode Method GeneticSharp

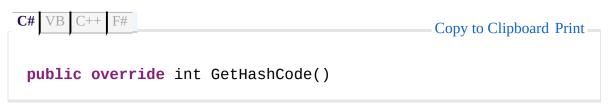
Returns a hash code for this instance.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: MInt32

A hash code for this instance, suitable for use in hashing algorithms and data structures like a hash table.

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase ReplaceGene Method GeneticSharp

Replaces the gene in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void ReplaceGene(
    int index,
    Gene gene
)

Parameters

index

Type: System Int32
```

Index.

gene

Type: GeneticSharp.Domain.Chromosomes Gene

Gene.

Implements

IChromosome ReplaceGene(Int32, Gene)

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase ReplaceGenes Method GeneticSharp

Replaces the genes starting in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void ReplaceGenes(
    int startIndex,
    Gene[] genes
)

Parameters

startIndex

Type: System Int32

Start index.
```

genes

Type: GeneticSharp.Domain.Chromosomes Gene

Genes.

Implements

IChromosome ReplaceGenes(Int32, Gene)

Remarks

The genes to be replaced can't be greater than the available space between the start index and the end of the chromosome.

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Resize Method

GeneticSharp

Resizes the chromosome to the new length.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public void Resize(
   int newLength
)
```

Parameters

newLength

Type: System Int32

The new length.

Implements

IChromosome Resize(Int32)

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Operators

Genetic Sharp

The ChromosomeBase type exposes the following members.

Operators

	Name	Description
(/ <u>-</u> =+) S	Equality	
(/ <u>-</u> =+) S	GreaterThan	
(/ <u>-</u> =+) S	Inequality	
(/ <u>-</u> =+) S	LessThan	

Back to Top

See Also

ChromosomeBase Class GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Equality Operator

GeneticSharp

[Missing <summary> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static bool operator ==(
    ChromosomeBase first,
    ChromosomeBase second
)
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

First.

second

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

Second.

Return Value

Type: Boolean

[Missing <returns> documentation for

"M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Equality(GeneticSharp.Domain.ChromosomeBase.op_Equality(GeneticSharp.Domain.ChromosomeBa

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase GreaterThan Operator GeneticSharp

[Missing <summary> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_GreaterThan(GeneticSharp.Domain

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public static bool operator >(
    ChromosomeBase first,
    ChromosomeBase second
)
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

First.

second

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

Second.

Return Value

Type: Boolean

[Missing <returns> documentation for

 $"M: Genetic Sharp. Domain. Chromosomes. Chromosome Base. op_Greater Than (Genetic Sharp. Domain. Chromosome Bas$

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Inequality Operator

GeneticSharp

[Missing <summary> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_Inequality(GeneticSharp.Domain.C

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static bool operator !=(
    ChromosomeBase first,
    ChromosomeBase second
)
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

First.

second

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

Second.

Return Value

Type: Boolean

[Missing <returns> documentation for

 $"M: Genetic Sharp. Domain. Chromosomes. Chromosome Base. op_Inequality (Genetic Sharp. Domain. Chromosomes) and the properties of the pr$

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase LessThan Operator

GeneticSharp

[Missing <summary> documentation for "M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_LessThan(GeneticSharp.Domain.Cl

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static bool operator <(
    ChromosomeBase first,
    ChromosomeBase second
)</pre>
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

First.

second

Type: GeneticSharp.Domain.Chromosomes ChromosomeBase

Second.

Return Value

Type: Boolean

[Missing <returns> documentation for

"M:GeneticSharp.Domain.Chromosomes.ChromosomeBase.op_LessThan(GeneticSharp.Domain.Cl

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Properties

Genetic Sharp

The ChromosomeBase type exposes the following members.

Properties

		Name	Description	
		Fitness	Gets or sets the fitness of the chromosome in the current problem.	
·	Length Gets the length, in genes, of the chromosome.		Gets the length, in genes, of the chromosome.	

Back to Top

See Also

ChromosomeBase Class

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Fitness Property

GeneticSharp

Gets or sets the fitness of the chromosome in the current problem.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                 — Copy to Clipboard Print —
  public Nullable<double> Fitness { get; set; }
Property Value
Type: Nullable Double
```

Implements

IChromosome Fitness

See Also

ChromosomeBase Class

ChromosomeBase Members

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeBase Length Property

GeneticSharp

Gets the length, in genes, of the chromosome.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public int Length { get; }

Property Value
Type: Int32
Implements
IChromosome Length

See Also

ChromosomeBase Class
ChromosomeBase Members
```

Send Feedback on this topic to giacomelli@gmail.com.

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeExtensions Class

GeneticSharp

Chromosome extensions.

Inheritance Hierarchy



System Object GeneticSharp.Domain.Chromosomes ChromosomeExtension

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ChromosomeExtensions Members
GeneticSharp.Domain.Chromosomes Namespace

ChromosomeExtensions Members

Genetic Sharp

The ChromosomeExtensions type exposes the following members.

Methods

	Name	Description	
=\$S	AnyHasRepeatedGene	Checks if any of the chromosomes has repeated gene.	

Back to Top

See Also

ChromosomeExtensions Class

GeneticSharp.Domain.Chromosomes Namespace

ChromosomeExtensions Methods

Genetic Sharp

The ChromosomeExtensions type exposes the following members.

Methods

	Name	Description
=\$S	AnyHasRepeatedGene	Checks if any of the chromosomes has repeated gene.

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See Also

ChromosomeExtensions Class GeneticSharp.Domain.Chromosomes Namespace

ChromosomeExtensions AnyHasRepeatedGeneGeneticS Method

Checks if any of the chromosomes has repeated gene.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public static bool AnyHasRepeatedGene(
    this IList<IChromosome> chromosomes
)
```

Parameters

chromosomes

Type: System.Collections.Generic IList IChromosome Chromosomes.

Return Value

Type: **Boolean**

true, if chromosome has repeated gene, false otherwise.

Usage Note

In Visual Basic and C#, you can call this method as an instance method on any object of type List IChromosome. When you use instance method syntax to call this method, omit the first parameter. For more information, see Extension Methods (Visual Basic) or Extension Methods (C# Programming Guide).

Remarks

This can happen when used with a IMutation's implementation that not keep the chromosome ordered, like OnePointCrossover, TwoPointCrossover and UniformCrossover is combined with a ICrossover's implementation that need ordered chromosomes, like OX1 and PMX.

See Also

ChromosomeExtensions Class

ChromosomeExtensions Members GeneticSharp.Domain.Chromosomes Namespace

Gene Structure

GeneticSharp

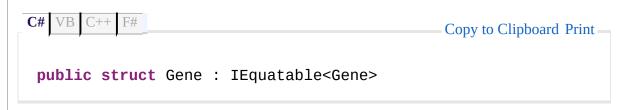
Represents a gene of a chromosome.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

The Gene type exposes the following members.

Constructors

Name Description		Description
≡	Gene	Initializes a new instance of the Gene class.

Back to Top

Methods

	Name	Description	
≡	Equals(Object)	Determines whether the specified Object is equal to the current Gene. (Overrides ValueType Equals(Object).)	
≡	Equals(Gene)	Determines whether the specified Gene is equal to the current Gene.	
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Cobject.)	
≡	GetHashCode	Returns a hash code for this instance. (Overrides ValueType GetHashCode .)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	₽ ToString	Returns the fully qualified type name of this instance. (Inherited from ValueType.)	

Back to Top

Operators

Name		Description
≝ S Equality		
<u>(/-</u> =+) S	Inequality	

Back to Top

Properties

	Name	Description
	Value	Gets or sets the value.

Back to Top

See Also

Gene Structure

GeneticSharp.Domain.Chromosomes Namespace

Gene Constructor

GeneticSharp

Initializes a new instance of the Gene class.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public Gene(
Object value
)

Parameters
```

value

Type: System Object
The gene intial value.

See Also

Gene Structure

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

The Gene type exposes the following members.

Methods

	Name	Description	
≡	Equals(Object)	Determines whether the specified Object is equal to the current Gene. (Overrides ValueType Equals(Object).)	
≡©	Equals(Gene)	Determines whether the specified Gene is equal to the current Gene.	
**	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Cobject.)	
=	GetHashCode	Returns a hash code for this instance. (Overrides ValueType GetHashCode .)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
**	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	ToString	Returns the fully qualified type name of this instance. (Inherited from ValueType.)	

Back to Top

See Also

Gene Structure

GeneticSharp.Domain.Chromosomes Namespace

Gene Equals Method

Genetic Sharp

Overload List

	Name	Description
≡	Equals(Object)	Determines whether the specified Object is equal to the current Gene.
		(Overrides WalueType Equals(Object).)
≡	Equals(Gene)	Determines whether the specified Gene is equal to the current Gene.

Back to Top

See Also

Gene Structure

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

Gene Equals Method (Object)

GeneticSharp

Determines whether the specified **Object** is equal to the current Gene.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

See Also

Gene Structure

Gene Members

Equals Overload

GeneticSharp.Domain.Chromosomes Namespace

Gene Equals Method (Gene)

GeneticSharp

Determines whether the specified Gene is equal to the current Gene.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public bool Equals(
Gene other
)
```

Parameters

other

Type: GeneticSharp.Domain.Chromosomes Gene

The Gene to compare with the current Gene.

Return Value

Type: Poolean

true if the specified Gene is equal to the current Gene; otherwise, false.

Implements

See Also

Gene Structure

Gene Members

Equals Overload

GeneticSharp.Domain.Chromosomes Namespace

Gene GetHashCode Method

GeneticSharp

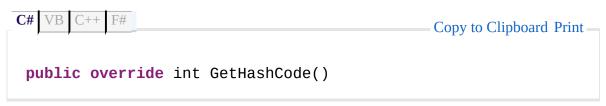
Returns a hash code for this instance.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: MInt32

A hash code for this instance, suitable for use in hashing algorithms and data structures like a hash table.

See Also

Gene Structure

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

Gene Operators

Genetic Sharp

The Gene type exposes the following members.

Operators

	Name	Description
(<u>/-</u> =+) S	Equality	
<u>(/-</u> =+) S	Inequality	

Back to Top

See Also

Gene Structure

GeneticSharp.Domain.Chromosomes Namespace

[Missing <summary> documentation for

 $"M: Genetic Sharp. Domain. Chromosomes. Gene. op_Equality (Genetic Sharp. Domain. Gene. op_Equality (Genetic Sharp. Domain. Gene. op_Equality (Genetic Sharp. Gene. op_Equ$

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static bool operator ==(
    Gene first,
    Gene second
)
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes Gene

First.

second

Type: GeneticSharp.Domain.Chromosomes Gene

Second.

Return Value

Type: Poolean

[Missing <returns> documentation for

"M:GeneticSharp.Domain.Chromosomes.Gene.op_Equality(GeneticSharp.Domain.Chromosomes.G

See Also

Gene Structure

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

[Missing <summary> documentation for

 $"M: Genetic Sharp. Domain. Chromosomes. Gene. op_Inequality (Genetic Sharp. Gene. op_$

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public static bool operator !=(
    Gene first,
    Gene second
)
```

Parameters

first

Type: GeneticSharp.Domain.Chromosomes Gene

First.

second

Type: GeneticSharp.Domain.Chromosomes Gene

Second.

Return Value

Type: Poolean

[Missing <returns> documentation for

"M:GeneticSharp.Domain.Chromosomes.Gene.op_Inequality(GeneticSharp.Domain.Chromosomes

See Also

Gene Structure

Gene Members

GeneticSharp.Domain.Chromosomes Namespace

Gene Properties

Genetic Sharp

The Gene type exposes the following members.

Properties

		Name	Description
		Value	Gets or sets the value.

Back to Top

See Also

Gene Structure

GeneticSharp.Domain.Chromosomes Namespace

Gene Value Property

GeneticSharp

Gets or sets the value.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public Object Value { get; }

Property Value
Type: Object
The value.

See Also

Gene Structure
Gene Members
GeneticSharp.Domain.Chromosomes Namespace
```

IChromosome Interface

GeneticSharp

Defines an interface for a chromosome.

Remarks

In genetic algorithms, a chromosome (also sometimes called a genome) is a set of parameters which define a proposed solution to the problem that the genetic algorithm is trying to solve. The chromosome is often represented as a simple string, although a wide variety of other data structures are also used.

**http://en.wikipedia.org/wiki/Chromosome_(genetic_algorithm)

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

The IChromosome type exposes the following members.

Methods

	Name	Description	
≡	Clone	Creates a clone.	
≡	CompareTo	Compares the current object with another object of the same type. (Inherited from Comparable IChromosome .)	
≡	CreateNew	Creates a new chromosome using the same structure of this.	
≡	GenerateGene	Generates the gene for the specified index.	
≡	GetGene	Gets the gene in the specified index.	
≡	GetGenes Gets the genes.		
≡	ReplaceGene	Replaces the gene in the specified index.	
≡	ReplaceGenes	Replaces the genes starting in the specified index.	
≡	Resize Resizes the chromosome to the new length.		

Back to Top

Properties

Name	Description
Fitness	Gets or sets the fitness.
Length	Gets the length.

Back to Top

See Also

IChromosome Interface

GeneticSharp.Domain.Chromosomes Namespace

IChromosome Methods

GeneticSharp

The IChromosome type exposes the following members.

Methods

	Name	Description	
=	Clone	Creates a clone.	
≡	CompareTo	Compares the current object with another object of the same type. (Inherited from Comparable IChromosome .)	
=0	CreateNew	Creates a new chromosome using the same structure of this.	
≡	GenerateGene	Generates the gene for the specified index.	
≡	GetGene	Gets the gene in the specified index.	
=	GetGenes	Gets the genes.	
=0	ReplaceGene	Replaces the gene in the specified index.	
=0	ReplaceGenes	Replaces the genes starting in the specified index.	
=0	Resize	Resizes the chromosome to the new length.	

Back to Top

See Also

IChromosome Interface GeneticSharp.Domain.Chromosomes Namespace

IChromosome Clone Method

GeneticSharp

Creates a clone.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: IChromosome

[Missing <returns> documentation for "M:GeneticSharp.Domain.Chromosomes.IChromosome.Clone"]

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome CreateNew Method

GeneticSharp

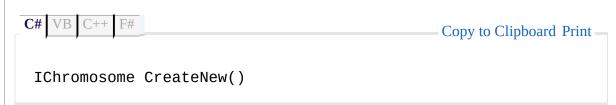
Creates a new chromosome using the same structure of this.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: IChromosome
The new chromosome.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome GenerateGene Method

GeneticSharp

Generates the gene for the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                      Copy to Clipboard Print —
  Gene GenerateGene(
           int geneIndex
Parameters
```

geneIndex

Type: System Int32

Gene index.

Return Value

Type: Gene The gene.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome GetGene Method

GeneticSharp

Gets the gene in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                       Copy to Clipboard Print —
  Gene GetGene(
            int index
Parameters
```

index

Type: System Int32

Index.

Return Value

Type: Gene

The gene.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome GetGenes Method

GeneticSharp

Gets the genes.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Gene The genes.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome ReplaceGene Method

GeneticSharp

Replaces the gene in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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void ReplaceGene(
   int index,
   Gene gene
)
```

Parameters

index

Type: System Int32

Index.

gene

Type: GeneticSharp.Domain.Chromosomes Gene

Gene.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

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IChromosome ReplaceGenes Method

GeneticSharp

Replaces the genes starting in the specified index.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                     Copy to Clipboard Print —
  void ReplaceGenes(
           int startIndex,
           Gene[] genes
Parameters
```

startIndex

Type: System Int32

Start index.

genes

Type: GeneticSharp.Domain.Chromosomes Gene

Genes.

Remarks

The genes to be replaced can't be greater than the available space between the start index and the end of the chromosome.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosome Resize Method

GeneticSharp

Resizes the chromosome to the new length.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

void Resize(
    int newLength
)
```

Parameters

newLength

Type: System Int32

The new length.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

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IChromosome Properties

Genetic Sharp

The IChromosome type exposes the following members.

Properties

Name	Description
Fitness	Gets or sets the fitness.
Length	Gets the length.

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See Also

IChromosome Interface

GeneticSharp.Domain.Chromosomes Namespace

IChromosome Fitness Property

GeneticSharp

Gets or sets the fitness.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



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GeneticSharp.Domain.Chromosomes Namespace

IChromosome Length Property

GeneticSharp

Gets the length.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

int Length { get; }

Property Value

Type: Part 22
```

Type: Int32
The length.

See Also

IChromosome Interface

IChromosome Members

GeneticSharp.Domain.Chromosomes Namespace

IChromosomeOperator Interface

Genetic Sharp

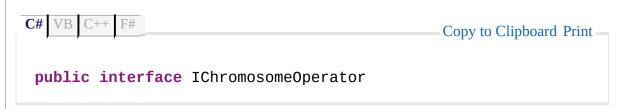
Defines a basic interface for operators which works with chromosomes.

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IChromosomeOperator Members GeneticSharp.Domain.Chromosomes Namespace

IChromosomeOperator Members

Genetic Sharp

The IChromosomeOperator type exposes the following members.

Properties

	Name	Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).

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See Also

IChromosomeOperator Interface GeneticSharp.Domain.Chromosomes Namespace

IChromosomeOperator Properties

Genetic Sharp

The IChromosomeOperator type exposes the following members.

Properties

	Name	Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).

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See Also

IChromosomeOperator Interface GeneticSharp.Domain.Chromosomes Namespace

IChromosomeOperator IsOrdered Property

GeneticSharp

Gets if the operator is ordered (if can keep the chromosome order).

Namespace: GeneticSharp.Domain.Chromosomes

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
bool IsOrdered { get ; }	

Property Value

Type: Boolean

See Also

IChromosomeOperator Interface

IChromosomeOperator Members

GeneticSharp.Domain.Chromosomes Namespace

Genetic Sharp

GeneticSharp.Domain.Crossovers Namespace

[Missing <summary> documentation for "N:GeneticSharp.Domain.Crossovers"]

Classes

	Class	Description
2	CrossoverBase	A base class for crossovers.
* \$	CrossoverException	Exception throw when an error occurs during the execution of cross.
2	CrossoverService	Crossover service.
2	CutAndSpliceCrossover	Cut and Splice crossover.
		Remarks
		Results in a change in length of the children strings. The reason for this difference is that each parent string has a separate choice of crossover point. Wikipedia
* \$	CycleCrossover	Cycle Crossover (CX).
		Remarks
		The Cycle Crossover (CX) proposed by Oliver builds offspring in such a way that each city (and its position) comes from one of the parents. A Comparative Study of Adaptive Crossover
		Operators for Genetic Algorithms to Resolve the Traveling Salesman Problem The Cycle Crossover operator identifies a number of so-called cycles between two parent chromosomes. Then, to form Child 1, cycle one is copied from parent 1, cycle 2 from parent 2, cycle 3 from parent 1, and so on. Crossover Technique: Cycle Crossover
* \$	OnePointCrossover	One-Point crossover.
		Remarks
		A single crossover point on both parents is selected. All data beyond that point in either is swapped between the two parents. One-point crossover
		Examples
		Parents: $ 0 0 0 \times 1 1 1 $ Have two swap points indexes: 0 and 1. 1) new OnePointCrossover(0); Children result: $ 0 1 1 $ and $ 1 0 0 2)$ new OnePointCrossover(1); Children result: $ 0 0 1 $ and $ 1 1 0 $

43	OrderedCrossover	Ordered Crossover (OX1).
		Remarks
		Also know as: Order Crossover. A portion of one parent is mapped to a portion of the other parent. From the replaced portion on, the rest is filled up by the remaining genes, where already present genes are omitted and the order is preserved. Crossover for
		Ordered Chromosomes The Ordered Crossover method is presented by Goldberg, is used when the problem is of order based, for example in Ushaped assembly line balancing etc. Given two parent chromosomes, two random crossover points are selected partitioning them into a left, middle and right portion. The ordered two-point crossover behaves in the following way: child1 inherits its left and right section from parent1, and its middle section is determined. A Comparative Study of
		Adaptive Crossover Operators for Genetic Algorithms to Resolve the Traveling Salesman Problem The order crossover operator (Figure 4) was proposed by Davis (1985). The OX1 exploits a property of the path representation, that the order of cities (not their positions) are important. Genetic Algorithms for the
		Travelling Salesman Problem - A Review of Representations and Operators Order 1 Crossover is a fairly simple permutation crossover. Basically, a swath of consecutive alleles from parent 1 drops down, and remaining values are placed in the child in the order which they appear in parent 2. Order 1 Crossover
4 \$	PartiallyMappedCrossover	Partially mapped crossover (PMX).
		Remarks
		The partially-mapped crossover operator was suggested by Goldberg and Lingle (1985). It passes on ordering and value information from the parent tours to the offspring tours. A portion of one parent's string is mapped onto a portion of the other parent's string and the remaining information is exchanged. Genetic Algorithms for the Travelling Salesman Problem - A
		Review of Representations and Operators
4 \$	ThreeParentCrossover	Three Parent Crossover.
		Remarks
		In this technique, the child is derived from three parents. They are randomly chosen. Each bit of first parent is checked with bit of second parent whether they are same. If same then the bit is taken for the offspring otherwise the bit from the third parent is taken for the offspring. Wikipedia
**	TwoPointCrossover	Two-Point Crossover
		Remarks

		Two-point crossover calls for two points to be selected on the parents. Everything between the two points is swapped between the parents, rendering two children. **Wikipedia**
4 3	UniformCrossover	The Uniform Crossover uses a fixed mixing ratio between two parents. Unlike one-point and two-point crossover, the Uniform Crossover enables the parent chromosomes to contribute the gene level rather than the segment level.
		Remarks —
		If the mix probability is 0.5, the offspring has approximately half of the genes from first parent and the other half from second parent, although cross over points can be randomly chosen. Wikipedia

Interfaces

	Interface	Description
o - O	ICrossover Defines a interface for a crossover genetic operator.	
		Remarks
It is analogous to reproduction and biological crossover, upon which gen algorithms are based. Cross over is a process of taking more than one particle.		programming of a chromosome or chromosomes from one generation to the next. It is analogous to reproduction and biological crossover, upon which genetic algorithms are based. Cross over is a process of taking more than one parent solutions and producing a child solution from them. Crossover (Genetic

CrossoverBase Class

GeneticSharp

A base class for crossovers.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase

GeneticSharp.Domain.Crossovers CutAndSpliceCrossover

GeneticSharp.Domain.Crossovers CycleCrossover

GeneticSharp.Domain.Crossovers OnePointCrossover

GeneticSharp.Domain.Crossovers OrderedCrossover

GeneticSharp.Domain.Crossovers PartiallyMappedCrossover

GeneticSharp.Domain.Crossovers ThreeParentCrossover

GeneticSharp.Domain.Crossovers TwoPointCrossover

GeneticSharp.Domain.Crossovers UniformCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CrossoverBase Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

The CrossoverBase type exposes the following members.

Constructors

	Name	Description
<u></u>	CrossoverBase(Int32, Int32)	Initializes a new instance of the CrossoverBase class.
<u></u>	CrossoverBase(Int32, Int32, Int32)	Initializes a new instance of the CrossoverBase class.

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Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children.
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
9	PerformCross	Performs the cross with specified parents generating the children.
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross.

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover.
	ParentsNumber	Gets the number of parents need for cross.

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See Also

CrossoverBase Class

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase Constructor

GeneticSharp

Overload List

	Name	Description
<u> </u>	CrossoverBase(Int32, Int32)	Initializes a new instance of the CrossoverBase class.
<u></u>	CrossoverBase(Int32, Int32, Int32)	Initializes a new instance of the CrossoverBase class.

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See Also

CrossoverBase Class

CrossoverBase Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase Constructor (Int32, Int32) GeneticSharp

Initializes a new instance of the CrossoverBase class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

protected CrossoverBase(
   int parentsNumber,
   int childrenNumber
)
```

Parameters

parentsNumber

Type: System Int32

The number of parents need for cross.

childrenNumber

Type: System Int32

The number of children generated by cross.

See Also

CrossoverBase Class

CrossoverBase Members

CrossoverBase Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase Constructor (Int32, Int32, Int32) GeneticSharp

Initializes a new instance of the CrossoverBase class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

protected CrossoverBase(
   int parentsNumber,
   int childrenNumber,
   int minChromosomeLength
)
```

Parameters

parentsNumber

Type: System Int32

The number of parents need for cross.

childrenNumber

Type: System Int32

The number of children generated by cross.

min Chromosome Length

Type: System Int32

The minimum length of the chromosome supported by the crossover.

See Also

CrossoverBase Class

CrossoverBase Members

CrossoverBase Overload

GeneticSharp.Domain.Crossovers Namespace

The CrossoverBase type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children.
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
*	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ ♥	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformCross	Performs the cross with specified parents generating the children.
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

CrossoverBase Class

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase Cross Method

GeneticSharp

Cross the specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

Implements

ICrossover Cross(IList IChromosome)

See Also

CrossoverBase Class

CrossoverBase Members

 $Genetic Sharp. Domain. Crossovers\ Namespace$

CrossoverBase PerformCross Method

GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected abstract IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

CrossoverBase Class

CrossoverBase Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase Properties

Genetic Sharp

The CrossoverBase type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross.
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover.
ParentsNumber	Gets the number of parents need for cross.

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See Also

CrossoverBase Class

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase ChildrenNumber Property GeneticSharp

Gets the number of children generated by cross.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                 — Copy to Clipboard Print —
 public int ChildrenNumber { get; private set; }
```

Property Value

Type: MInt32

The children number.

Implements

ICrossover ChildrenNumber

See Also

CrossoverBase Class

CrossoverBase Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase IsOrdered Property

GeneticSharp

Gets if the operator is ordered (if can keep the chromosome order).

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public bool IsOrdered { get; protected set; }
```

Property Value

Type: Boolean

Implements

IChromosomeOperator IsOrdered

See Also

CrossoverBase Class

CrossoverBase Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverBase MinChromosomeLength Property

Genetic Sharp

Gets the minimum length of the chromosome supported by the crossover.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print—

public int MinChromosomeLength { get; private set; }
```

Property Value

Type: MInt32

The minimum length of the chromosome.

Implements

ICrossover MinChromosomeLength

See Also

CrossoverBase Class

CrossoverBase Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

CrossoverBase ParentsNumber Property GeneticSharp

Gets the number of parents need for cross.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int ParentsNumber { get; private set; }
```

Property Value

Type: MInt32

The parents number.

Implements

ICrossover ParentsNumber

See Also

CrossoverBase Class

CrossoverBase Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Class

GeneticSharp

Exception throw when an error occurs during the execution of cross.

Inheritance Hierarchy

System Object System Exception

GeneticSharp.Domain.Crossovers CrossoverException

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CrossoverException Members
GeneticSharp.Domain.Crossovers Namespace

CrossoverException Members

The CrossoverException type exposes the following members.

Constructors

	Name	Description
≡	CrossoverException	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(String)	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(String, Exception)	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(ICrossover, String)	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(ICrossover, String, Exception)	Initializes a new instance of the CrossoverException class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
=0	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
≡ (₽ •GetType	Gets the runtime type of the current instance. (Inherited from Exception.)

ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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Properties

	Name	Description
	Crossover	Gets the crossover.
	Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
Gets or sets a link to the help file ass (Inherited from Exception.)		Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
	Gets or sets HRESULT, a coded numerical value that is assigned to specific exception. (Inherited from Exception.)	
	InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
		Gets a message that describes the current exception. (Inherited from Exception.)
Gets or sets the name of the application or the object that cause (Inherited from Exception.)		Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
	StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
	TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

CrossoverException Class GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor

GeneticSharp

Overload List

	Name	Description
≡	CrossoverException	Initializes a new instance of the CrossoverException class.
(cumg)		Initializes a new instance of the CrossoverException class.
≡	CrossoverException(String, Exception)	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(ICrossover, String)	Initializes a new instance of the CrossoverException class.
≡	CrossoverException(ICrossover, String, Exception)	Initializes a new instance of the CrossoverException class.

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See Also

CrossoverException Class

CrossoverException Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor

GeneticSharp

Initializes a new instance of the CrossoverException class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CrossoverException Class

CrossoverException Members

CrossoverException Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor (String) GeneticSharp

Initializes a new instance of the CrossoverException class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public CrossoverException(
    string message
)
```

Parameters

message

Type: System String

The message that describes the error.

See Also

 $Crossover Exception \ Class$

CrossoverException Members

CrossoverException Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor (String, Exception)

Genetic Sharp

Initializes a new instance of the CrossoverException class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public CrossoverException(
    string message,
    Exception innerException
)
```

Parameters

message

Type: System String

The error message that explains the reason for the exception.

innerException

Type: System Exception

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

See Also

CrossoverException Class

CrossoverException Members

CrossoverException Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor (ICrossover, String)

GeneticSharp

Initializes a new instance of the CrossoverException class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public CrossoverException(
    ICrossover crossover,
    string message
)
```

Parameters

crossover

Type: GeneticSharp.Domain.Crossovers ICrossover

The crossover where ocurred the error.

message

Type: System String

The error message.

See Also

CrossoverException Class

CrossoverException Members

CrossoverException Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Constructor (ICrossover, String, Exception)

GeneticSharp

Initializes a new instance of the CrossoverException class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
public CrossoverException(
    ICrossover crossover,
    string message,
    Exception innerException
)
```

Parameters

crossover

Type: GeneticSharp.Domain.Crossovers ICrossover

The crossover where ocurred the error.

message

Type: System String

The error message.

inner Exception

Type: System Exception

The inner exception.

See Also

CrossoverException Class

CrossoverException Members

CrossoverException Overload

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Methods

Genetic Sharp

The CrossoverException type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
operations bef		Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)
Ģ [™]	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=•	₽ ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

Back to Top

See Also

CrossoverException Class

GeneticSharp.Domain.Crossovers Namespace

CrossoverException GetObjectData Method

Genetic Sharp

Sets the **SerializationInfo with information about the exception.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public override void GetObjectData(
    SerializationInfo info,
    StreamingContext context
)
```

Parameters

info

Type: System.Runtime.Serialization SerializationInfo

The SerializationInfo that holds the serialized object data about the exception being thrown.

context

Type: System.Runtime.Serialization StreamingContext

The StreamingContext that contains contextual information about the source or destination.

Implements

ISerializable GetObjectData(SerializationInfo, StreamingContext)
Exception GetObjectData(SerializationInfo, StreamingContext)

See Also

CrossoverException Class

CrossoverException Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverException Properties

Genetic Sharp

The CrossoverException type exposes the following members.

Properties

Name	Description	
Crossover	Gets the crossover.	
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)	
⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)	
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)	
InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)	
Message	Gets a message that describes the current exception. (Inherited from Exception.)	
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)	
StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)	
TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)	

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See Also

CrossoverException Class

GeneticSharp.Domain.Crossovers Namespace

Crossover Exception Crossover Property GeneticSharp

Gets the crossover.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print public ICrossover Crossover { get; private set; }
```

Property Value

Type: ICrossover The crossover.

See Also

CrossoverException Class

CrossoverException Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

CrossoverService Class

GeneticSharp

Crossover service.

Inheritance Hierarchy

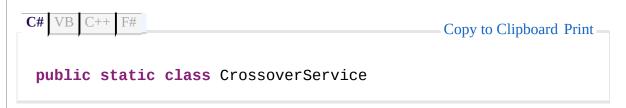
System Object GeneticSharp.Domain.Crossovers CrossoverService

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CrossoverService Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

CrossoverService Members

Genetic Sharp

The CrossoverService type exposes the following members.

Methods

	Name	Description
ĕ∳S	CreateCrossoverByName	Creates the ICrossover's implementation with the specified name.
=♦S	GetCrossoverNames	Gets the available crossover names.
=♦S	GetCrossoverTypeByName	Gets the crossover type by the name.
=♦S	GetCrossoverTypes	Gets available crossover types.

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See Also

CrossoverService Class

GeneticSharp.Domain.Crossovers Namespace

CrossoverService Methods

Genetic Sharp

The CrossoverService type exposes the following members.

Methods

	Name	Description
ĕ∳S	CreateCrossoverByName	Creates the ICrossover's implementation with the specified name.
=♦S	GetCrossoverNames	Gets the available crossover names.
= \$ S	GetCrossoverTypeByName	Gets the crossover type by the name.
=♦S	GetCrossoverTypes	Gets available crossover types.

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See Also

CrossoverService Class GeneticSharp.Domain.Crossovers Namespace

CrossoverService CreateCrossoverByName GeneticSharp

Creates the ICrossover's implementation with the specified name.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static ICrossover CreateCrossoverByName(
    string name,
    params Object[] constructorArgs
)
```

Parameters

name

Type: System String The crossover name.

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: ICrossover

The crossover implementation instance.

See Also

CrossoverService Class

CrossoverService Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

CrossoverService GetCrossoverNames Method

GeneticSharp

Gets the available crossover names.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
public static IList<	<pre><string> GetCrossoverNames()</string></pre>

Return Value

Type: String The crossover names.

See Also

CrossoverService Class

CrossoverService Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverService GetCrossoverTypeByName GeneticShar Method

Gets the crossover type by the name.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public static Type GetCrossoverTypeByName(
    string name
)
```

Parameters

name

Type: System String
The name of crossover.

Return Value

Type: Type

The crossover type.

See Also

CrossoverService Class

CrossoverService Members

GeneticSharp.Domain.Crossovers Namespace

CrossoverService GetCrossoverTypes Method

GeneticSharp

Gets available crossover types.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Type

All available crossover types.

See Also

CrossoverService Class

CrossoverService Members

GeneticSharp.Domain.Crossovers Namespace

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ giacomelli@gmail.com.}}$

CutAndSpliceCrossover Class

GeneticSharp

Cut and Splice crossover.

Remarks

Results in a change in length of the children strings. The reason for this difference is that each parent string has a separate choice of crossover point. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase GeneticSharp.Domain.Crossovers CutAndSpliceCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CutAndSpliceCrossover Members GeneticSharp.Domain.Crossovers Namespace

The CutAndSpliceCrossover type exposes the following members.

Constructors

	Name	Description	
≡	CutAndSpliceCrossover	Initializes a new instance of the CutAndSpliceCrossover class.	

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Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

CutAndSpliceCrossover Class GeneticSharp.Domain.Crossovers Namespace

CutAndSpliceCrossover Constructor

GeneticSharp

Initializes a new instance of the CutAndSpliceCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CutAndSpliceCrossover Class
CutAndSpliceCrossover Members
GeneticSharp.Domain.Crossovers Namespace

CutAndSpliceCrossover Methods

GeneticSharp

The CutAndSpliceCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

CutAndSpliceCrossover Class GeneticSharp.Domain.Crossovers Namespace

CutAndSpliceCrossover PerformCross Method

GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

Exceptions

Exception	Condition
System NotImplementedException	

See Also

CutAndSpliceCrossover Class

CutAndSpliceCrossover Members

GeneticSharp.Domain.Crossovers Namespace

CutAndSpliceCrossover Properties

GeneticSharp

The CutAndSpliceCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

CutAndSpliceCrossover Class GeneticSharp.Domain.Crossovers Namespace

CycleCrossover Class

GeneticSharp

Cycle Crossover (CX).

Remarks

The Cycle Crossover (CX) proposed by Oliver builds offspring in such a way that each city (and its position) comes from one of the parents. CA Comparative Study of Adaptive Crossover Operators for Genetic Algorithms to Resolve the Traveling Salesman Problem The Cycle Crossover operator identifies a number of so-called cycles between two parent chromosomes. Then, to form Child 1, cycle one is copied from parent 1, cycle 2 from parent 2, cycle 3 from parent 1, and so on. Crossover Technique: Cycle Crossover

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase GeneticSharp.Domain.Crossovers CycleCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB	C++	F#			Copy to Clipboard Print
, ,	,		CycleCrossover	:	

See Also

CycleCrossover Members

GeneticSharp.Domain.Crossovers Namespace

The CycleCrossover type exposes the following members.

Constructors

	Name	Description	
≡	CycleCrossover	Initializes a new instance of the CycleCrossover class.	

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Methods

	Name	Description
=	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
=♦	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

CycleCrossover Class

GeneticSharp.Domain.Crossovers Namespace

CycleCrossover Constructor

GeneticSharp

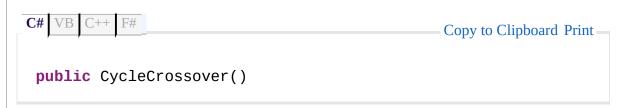
Initializes a new instance of the CycleCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

CycleCrossover Class

CycleCrossover Members

GeneticSharp.Domain.Crossovers Namespace

CycleCrossover Methods

Genetic Sharp

The CycleCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

CycleCrossover Class

GeneticSharp.Domain.Crossovers Namespace

CycleCrossover PerformCross Method

GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

CycleCrossover Class

CycleCrossover Members

GeneticSharp.Domain.Crossovers Namespace

CycleCrossover Properties

Genetic Sharp

The CycleCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

CycleCrossover Class

GeneticSharp.Domain.Crossovers Namespace

Defines a interface for a crossover genetic operator.

Remarks

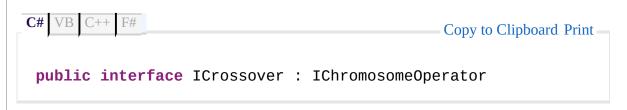
In genetic algorithms, crossover is a genetic operator used to vary the programming of a chromosome or chromosomes from one generation to the next. It is analogous to reproduction and biological crossover, upon which genetic algorithms are based. Cross over is a process of taking more than one parent solutions and producing a child solution from them. **Crossover* (Genetic Algorithm)

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ICrossover Members

 $Genetic Sharp. Domain. Crossovers\ Names pace$

ICrossover Members

GeneticSharp

The ICrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children.

Back to Top

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross.
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from IChromosomeOperator.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover.
ParentsNumber	Gets the number of parents need for cross.

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See Also

ICrossover Interface

GeneticSharp.Domain.Crossovers Namespace

ICrossover Methods

Genetic Sharp

The ICrossover type exposes the following members.

Methods

		Name	Description
-	•	Cross	Cross the specified parents generating the children.

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See Also

ICrossover Interface

GeneticSharp.Domain.Crossovers Namespace

ICrossover Cross Method

GeneticSharp

Cross the specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

ICrossover Interface

ICrossover Members

GeneticSharp.Domain.Crossovers Namespace

ICrossover Properties

Genetic Sharp

The ICrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross.
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from IChromosomeOperator.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover.
ParentsNumber	Gets the number of parents need for cross.

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See Also

ICrossover Interface

GeneticSharp.Domain.Crossovers Namespace

ICrossover ChildrenNumber Property

GeneticSharp

Gets the number of children generated by cross.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



ICrossover Interface

ICrossover Members

 $Genetic Sharp. Domain. Crossovers\ Namespace$

ICrossover MinChromosomeLength Property

Genetic Sharp

Gets the minimum length of the chromosome supported by the crossover.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>int MinChromosomeLength { get; }</pre>	

Property Value

Type: MInt32

The minimum length of the chromosome.

See Also

ICrossover Interface

ICrossover Members

GeneticSharp.Domain.Crossovers Namespace

ICrossover ParentsNumber Property

Genetic Sharp

Gets the number of parents need for cross.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



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GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Class

GeneticSharp

One-Point crossover.

Remarks

A single crossover point on both parents is selected. All data beyond that point in either is swapped between the two parents. **One-point crossover

Examples

Parents: $|0|0|0| \times |1|1|1|$ Have two swap points indexes: 0 and 1. 1) new

OnePointCrossover(0); Children result: |0|1|1| and |1|0|0| 2) new

OnePointCrossover(1); Children result: |0|0|1| and |1|1|0|

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase

GeneticSharp.Domain.Crossovers OnePointCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

OnePointCrossover Members
GeneticSharp.Domain.Crossovers Namespace

The OnePointCrossover type exposes the following members.

Constructors

	Name	Description
≡	OnePointCrossover	Initializes a new instance of the OnePointCrossover class.
=	OnePointCrossover(Int32)	Initializes a new instance of the OnePointCrossover class.

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Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ [®]	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description

	ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)
	SwapPointIndex	Gets or sets the index of the swap point.

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See Also

OnePointCrossover Class GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Constructor

Genetic Sharp

Overload List

	Name	Description
=	OnePointCrossover	Initializes a new instance of the OnePointCrossover class.
≡	OnePointCrossover(Int32)	Initializes a new instance of the OnePointCrossover class.

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See Also

OnePointCrossover Class
OnePointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Constructor

Genetic Sharp

Initializes a new instance of the OnePointCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

OnePointCrossover Class

OnePointCrossover Members

OnePointCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Constructor (Int32) GeneticSharp

Initializes a new instance of the OnePointCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public OnePointCrossover(
   int swapPointIndex
)
```

Parameters

swapPointIndex

Type: System Int32 Swap point index.

See Also

OnePointCrossover Class

OnePointCrossover Members

OnePointCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Methods

Genetic Sharp

The OnePointCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Cobject. (Inherited from Cobject.)
ē	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

OnePointCrossover Class

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover PerformCross Method GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

OnePointCrossover Class

OnePointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover Properties

Genetic Sharp

The OnePointCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)
SwapPointIndex	Gets or sets the index of the swap point.

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See Also

OnePointCrossover Class

GeneticSharp.Domain.Crossovers Namespace

OnePointCrossover SwapPointIndex Property

GeneticSharp

Gets or sets the index of the swap point.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public int SwapPointIndex { get; set; }
```

Property Value

Type: MInt32

The index of the swap point.

See Also

OnePointCrossover Class

OnePointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

Ordered Crossover (OX1).

Remarks

Also know as: Order Crossover. A portion of one parent is mapped to a portion of the other parent. From the replaced portion on, the rest is filled up by the remaining genes, where already present genes are omitted and the order is preserved. Crossover for Ordered Chromosomes The Ordered Crossover method is presented by Goldberg, is used when the problem is of order based, for example in Ushaped assembly line balancing etc. Given two parent chromosomes, two random crossover points are selected partitioning them into a left, middle and right portion. The ordered two-point crossover behaves in the following way: child1 inherits its left and right section from parent1, and its middle section is determined. A Comparative Study of Adaptive Crossover Operators for Genetic Algorithms to Resolve the Traveling Salesman Problem The order crossover operator (Figure 4) was proposed by Davis (1985). The OX1 exploits a property of the path representation, that the order of cities (not their positions) are important. Genetic Algorithms for the Travelling Salesman Problem - A Review of Representations and Operators Order 1 Crossover is a fairly simple permutation crossover. Basically, a swath of consecutive alleles from parent 1 drops down, and remaining values are placed in the child in the order which they appear in parent 2. Crossover 1 Crossover

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase GeneticSharp.Domain.Crossovers OrderedCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



public sealed class OrderedCrossover : CrossoverBase

See Also

OrderedCrossover Members GeneticSharp.Domain.Crossovers Namespace

The OrderedCrossover type exposes the following members.

Constructors

	Name	Description	
≡	OrderedCrossover	Initializes a new instance of the OrderedCrossover class.	

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Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

OrderedCrossover Class

GeneticSharp.Domain.Crossovers Namespace

OrderedCrossover Constructor

GeneticSharp

Initializes a new instance of the OrderedCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

OrderedCrossover Class

OrderedCrossover Members

GeneticSharp.Domain.Crossovers Namespace

OrderedCrossover Methods

Genetic Sharp

The OrderedCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

OrderedCrossover Class

GeneticSharp.Domain.Crossovers Namespace

OrderedCrossover PerformCross Method GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

OrderedCrossover Class

OrderedCrossover Members

GeneticSharp.Domain.Crossovers Namespace

OrderedCrossover Properties

Genetic Sharp

The OrderedCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

OrderedCrossover Class

GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover Class

GeneticSharp

Partially mapped crossover (PMX).

Remarks

The partially-mapped crossover operator was suggested by Gold- berg and Lingle (1985). It passes on ordering and value information from the parent tours to the offspring tours. A portion of one parent's string is mapped onto a portion of the other parent's string and the remaining information is exchanged. Genetic Algorithms for the Travelling Salesman Problem - A Review of Representations and Operators

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase GeneticSharp.Domain.Crossovers PartiallyMappedCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PartiallyMappedCrossover Members GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover Members

GeneticSharp

The PartiallyMappedCrossover type exposes the following members.

Constructors

	Name	Description	
=	PartiallyMappedCrossover	Initializes a new instance of the PartiallyMappedCrossover class.	

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Methods

	Name	Description	
=	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)	
=♦	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
ē	MemberwiseClone	e Creates a shallow copy of the current Object. (Inherited from Object.)	
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

PartiallyMappedCrossover Class GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover Constructor GeneticSharp

Initializes a new instance of the PartiallyMappedCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PartiallyMappedCrossover Class
PartiallyMappedCrossover Members
GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover Methods

Genetic Sharp

The PartiallyMappedCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

PartiallyMappedCrossover Class GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover PerformCross Method

GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

PartiallyMappedCrossover Class

PartiallyMappedCrossover Members

GeneticSharp.Domain.Crossovers Namespace

PartiallyMappedCrossover Properties

Genetic Sharp

The PartiallyMappedCrossover type exposes the following members.

Properties

	Name	Description
	ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
crossover.		Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

PartiallyMappedCrossover Class GeneticSharp.Domain.Crossovers Namespace

ThreeParentCrossover Class

GeneticSharp

Three Parent Crossover.

Remarks

In this technique, the child is derived from three parents. They are randomly chosen. Each bit of first parent is checked with bit of second parent whether they are same. If same then the bit is taken for the offspring otherwise the bit from the third parent is taken for the offspring. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase GeneticSharp.Domain.Crossovers ThreeParentCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ThreeParentCrossover Members
GeneticSharp.Domain.Crossovers Namespace

The ThreeParentCrossover type exposes the following members.

Constructors

	Name	Description	
≡	ThreeParentCrossover	Initializes a new instance of the ThreeParentCrossover class.	

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Methods

	Name	Description	
=	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)	
=♦	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
ē	MemberwiseClone	e Creates a shallow copy of the current Object. (Inherited from Object.)	
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)

	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

ThreeParentCrossover Class GeneticSharp.Domain.Crossovers Namespace

ThreeParentCrossover Constructor

GeneticSharp

Initializes a new instance of the ThreeParentCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ThreeParentCrossover Class

ThreeParentCrossover Members

GeneticSharp.Domain.Crossovers Namespace

ThreeParentCrossover Methods

Genetic Sharp

The ThreeParentCrossover type exposes the following members.

Methods

	Name	Description
Cross the specified parents generating the confidence (Inherited from CrossoverBase.)		Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≅	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=0	GetType	Gets the type of the current instance. (Inherited from Object.)
ē ·	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

ThreeParentCrossover Class GeneticSharp.Domain.Crossovers Namespace

ThreeParentCrossover PerformCross Method

GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

Exceptions

Exception	Condition
System NotImplementedException	

See Also

ThreeParentCrossover Class

ThreeParentCrossover Members

GeneticSharp.Domain.Crossovers Namespace

ThreeParentCrossover Properties

GeneticSharp

The ThreeParentCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

ThreeParentCrossover Class GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Class

GeneticSharp

Two-Point Crossover

Remarks

Two-point crossover calls for two points to be selected on the parents. Everything between the two points is swapped between the parents, rendering two children. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase

GeneticSharp.Domain.Crossovers TwoPointCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TwoPointCrossover Members
GeneticSharp.Domain.Crossovers Namespace

The TwoPointCrossover type exposes the following members.

Constructors

	Name	Description
≡	TwoPointCrossover	Initializes a new instance of the TwoPointCrossover class.
=0	TwoPointCrossover(Int32, Int32)	Initializes a new instance of the TwoPointCrossover class.

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Methods

	Name	Description	
=	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
**	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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Properties

Name	Description

7	ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
7	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
7	MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
7	ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)
Ť	SwapPointOneGeneIndex	Gets or sets the index of the swap point one gene.
Ť	SwapPointTwoGeneIndex	Gets or sets the index of the swap point two gene.

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See Also

TwoPointCrossover Class GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Constructor

GeneticSharp

Overload List

	Name	Description
≡	TwoPointCrossover	Initializes a new instance of the TwoPointCrossover class.
≡	TwoPointCrossover(Int32, Int32)	Initializes a new instance of the TwoPointCrossover class.

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See Also

TwoPointCrossover Class

TwoPointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Constructor

Genetic Sharp

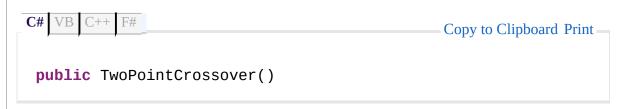
Initializes a new instance of the TwoPointCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TwoPointCrossover Class

TwoPointCrossover Members

TwoPointCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Constructor (Int32, Int32)

GeneticSharp

Initializes a new instance of the TwoPointCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public TwoPointCrossover(
   int swapPointOneGeneIndex,
   int swapPointTwoGeneIndex
)
```

Parameters

swapPointOneGeneIndex

Type: System Int32

Swap point one gene index.

swapPointTwoGeneIndex

Type: System Int32

Swap point two gene index.

See Also

TwoPointCrossover Class

TwoPointCrossover Members

TwoPointCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Methods

Genetic Sharp

The TwoPointCrossover type exposes the following members.

Methods

	Name	Description	
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Cobject.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
<u></u>	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

TwoPointCrossover Class GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover PerformCross Method GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

TwoPointCrossover Class

TwoPointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover Properties

Genetic Sharp

The TwoPointCrossover type exposes the following members.

Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)
SwapPointOneGeneIndex	Gets or sets the index of the swap point one gene.
SwapPointTwoGeneIndex	Gets or sets the index of the swap point two gene.

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See Also

TwoPointCrossover Class GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover SwapPointOneGeneIndex GeneticSha

Gets or sets the index of the swap point one gene.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public int SwapPointOneGeneIndex { get; set; }
```

Property Value

Type: MInt32

The index of the swap point one gene.

See Also

TwoPointCrossover Class

TwoPointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

TwoPointCrossover SwapPointTwoGeneIndex GeneticSha Property

Gets or sets the index of the swap point two gene.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print — public int SwapPointTwoGeneIndex { get; set; }
```

Property Value

Type: MInt32

The index of the swap point two gene.

See Also

TwoPointCrossover Class

TwoPointCrossover Members

GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Class

GeneticSharp

The Uniform Crossover uses a fixed mixing ratio between two parents. Unlike one-point and two-point crossover, the Uniform Crossover enables the parent chromosomes to contribute the gene level rather than the segment level.

Remarks

If the mix probability is 0.5, the offspring has approximately half of the genes from first parent and the other half from second parent, although cross over points can be randomly chosen. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Crossovers CrossoverBase

GeneticSharp.Domain.Crossovers UniformCrossover

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

UniformCrossover Members
GeneticSharp.Domain.Crossovers Namespace

The UniformCrossover type exposes the following members.

Constructors

	Name	Description
≡	UniformCrossover	Initializes a new instance of the UniformCrossover class.
		Remarks The default mix probability is 0.5.
≡	UniformCrossover(Single)	Initializes a new instance of the UniformCrossover class.

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Methods

	Name	Description	
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Cobject.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Cobject.)	
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
9	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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Properties

Name	Description
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)
MixProbability	Gets the mix probability.
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)

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See Also

UniformCrossover Class GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Constructor

GeneticSharp

Overload List

	Name	Description
≡	UniformCrossover	Initializes a new instance of the UniformCrossover class.
		Remarks The default mix probability is 0.5.
≡	UniformCrossover(Single)	Initializes a new instance of the UniformCrossover class.

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See Also

UniformCrossover Class
UniformCrossover Members
GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Constructor

Genetic Sharp

Initializes a new instance of the UniformCrossover class.

Remarks

The default mix probability is 0.5.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public UniformCrossover()
```

See Also

UniformCrossover Class

UniformCrossover Members

UniformCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Constructor (Single) GeneticSharp

Initializes a new instance of the UniformCrossover class.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public UniformCrossover(
    float mixProbability
)
```

Parameters

mixProbability

Type: System Single

Mix probability.

See Also

UniformCrossover Class

UniformCrossover Members

UniformCrossover Overload

GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Methods

Genetic Sharp

The UniformCrossover type exposes the following members.

Methods

	Name	Description
≡	Cross	Cross the specified parents generating the children. (Inherited from CrossoverBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē	PerformCross	Performs the cross with specified parents generating the children. (Overrides CrossoverBase PerformCross(IList IChromosome).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

UniformCrossover Class GeneticSharp.Domain.Crossovers Namespace

UniformCrossover PerformCross Method GeneticSharp

Performs the cross with specified parents generating the children.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected override IList<IChromosome> PerformCross(
    IList<IChromosome> parents
)
```

Parameters

parents

Type: System.Collections.Generic IList IChromosome

Parents.

Return Value

Type: FIList IChromosome

The offspring (children) of the parents.

See Also

UniformCrossover Class

UniformCrossover Members

GeneticSharp.Domain.Crossovers Namespace

UniformCrossover Properties

Genetic Sharp

The UniformCrossover type exposes the following members.

Properties

Name	Description	
ChildrenNumber	Gets the number of children generated by cross. (Inherited from CrossoverBase.)	
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from CrossoverBase.)	
MinChromosomeLength	Gets the minimum length of the chromosome supported by the crossover. (Inherited from CrossoverBase.)	
MixProbability	Gets the mix probability.	
ParentsNumber	Gets the number of parents need for cross. (Inherited from CrossoverBase.)	

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See Also

UniformCrossover Class GeneticSharp.Domain.Crossovers Namespace

UniformCrossover MixProbability Property

GeneticSharp

Gets the mix probability.

Namespace: GeneticSharp.Domain.Crossovers

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public float MixProbability { get; set; }
```

Property Value

Type: Single

The mix probability.

See Also

UniformCrossover Class

UniformCrossover Members

GeneticSharp.Domain.Crossovers Namespace

GeneticSharp.Domain.Fitnesses Namespace

Genetic Sharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Fitnesses"]

Classes

	Class	Description	
4 3	FitnessException	Exception throw when an error occurs during the execution of fitness evaluation.	

Interfaces

	Interface	Description
o-O	IFitness	Defines an interface for fitness function.
		Remarks A fitness function is a particular type of objective function that is used to summarise, as a single figure of merit, how close a given design solution is to achieving the set aims. Wikipedia

FitnessException Class

GeneticSharp

Exception throw when an error occurs during the execution of fitness evaluation.

Inheritance Hierarchy

System Object System Exception

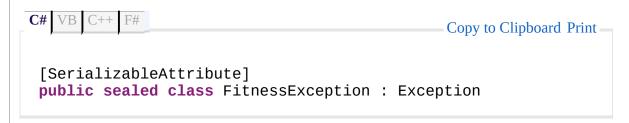
GeneticSharp.Domain.Fitnesses FitnessException

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessException Members

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Members

The FitnessException type exposes the following members.

Constructors

	Name	Description	
≡	FitnessException	Initializes a new instance of the FitnessException class.	
≡	FitnessException(String)	Initializes a new instance of the FitnessException class.	
≡ 	FitnessException(String, Exception)	Initializes a new instance of the FitnessException class.	
≡	FitnessException(IFitness, String)	Initializes a new instance of the FitnessException class.	
=•	FitnessException(IFitness, String, Exception)	Initializes a new instance of the FitnessException class.	

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Methods

	Name	Description
≅	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
-	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
=0	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=•	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
≡	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)

ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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Properties

	Name	Description
==	Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
	Fitness	Gets the fitness.
	⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
	HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
	InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
	Message	Gets a message that describes the current exception. (Inherited from Exception.)
	Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
	StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
	TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

FitnessException Class

GeneticSharp.Domain.Fitnesses Namespace

Overload List

	Name	Description
≡	FitnessException	Initializes a new instance of the FitnessException class.
≡	FitnessException(String)	Initializes a new instance of the FitnessException class.
≡	FitnessException(String, Exception)	Initializes a new instance of the FitnessException class.
≡	FitnessException(IFitness, String)	Initializes a new instance of the FitnessException class.
≡	FitnessException(IFitness, String, Exception)	Initializes a new instance of the FitnessException class.

Back to Top

See Also

FitnessException Class

FitnessException Members

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Constructor

GeneticSharp

Initializes a new instance of the FitnessException class.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessException Class

FitnessException Members

FitnessException Overload

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Constructor (String)

GeneticSharp

Initializes a new instance of the FitnessException class.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public FitnessException(
    string message
)
```

Parameters

message

Type: System String

The message that describes the error.

See Also

FitnessException Class

FitnessException Members

FitnessException Overload

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Constructor (String, Exception)

GeneticSharp

Initializes a new instance of the FitnessException class.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public FitnessException(
    string message,
    Exception innerException
)
```

Parameters

message

Type: System String

The error message that explains the reason for the exception.

innerException

Type: System Exception

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

See Also

FitnessException Class

FitnessException Members

FitnessException Overload

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Constructor (IFitness, String)

GeneticSharp

Initializes a new instance of the FitnessException class.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public FitnessException(
    IFitness fitness,
    string message
)
```

Parameters

fitness

Type: GeneticSharp.Domain.Fitnesses IFitness

The fitness where ocurred the error.

message

Type: System String

The error message.

See Also

FitnessException Class

FitnessException Members

FitnessException Overload

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Constructor (IFitness, String, Exception)

GeneticSharp

Initializes a new instance of the FitnessException class.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
public FitnessException(
    IFitness fitness,
    string message,
    Exception innerException
)
```

Parameters

fitness

Type: GeneticSharp.Domain.Fitnesses IFitness

The fitness where ocurred the error.

message

Type: System String

The error message.

inner Exception

Type: System Exception

Inner exception.

See Also

FitnessException Class

FitnessException Members

FitnessException Overload

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Methods

Genetic Sharp

The FitnessException type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ [®]	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=•	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=0	₽ ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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See Also

FitnessException Class

GeneticSharp.Domain.Fitnesses Namespace

FitnessException GetObjectData Method GeneticSharp

Sets the **SerializationInfo** with information about the exception.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public override void GetObjectData(
    SerializationInfo info,
    StreamingContext context
)
```

Parameters

info

Type: System.Runtime.Serialization SerializationInfo

The SerializationInfo that holds the serialized object data about the exception being thrown.

context

Type: System.Runtime.Serialization StreamingContext

The StreamingContext that contains contextual information about the source or destination.

Implements

☐ ISerializable GetObjectData(SerializationInfo, StreamingContext) ☐ Exception GetObjectData(SerializationInfo, StreamingContext)

See Also

FitnessException Class

FitnessException Members

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Properties

Genetic Sharp

The FitnessException type exposes the following members.

Properties

Name	Description
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
Fitness	Gets the fitness.
⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
Message	Gets a message that describes the current exception. (Inherited from Exception.)
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

FitnessException Class

GeneticSharp.Domain.Fitnesses Namespace

FitnessException Fitness Property

GeneticSharp

Gets the fitness.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print — public IFitness Fitness { get; private set; }
```

Property Value

Type: IFitness
The fitness.

See Also

FitnessException Class

FitnessException Members

GeneticSharp.Domain.Fitnesses Namespace

IFitness Interface

GeneticSharp

Defines an interface for fitness function.

Remarks

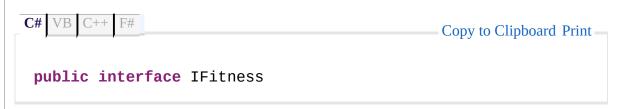
A fitness function is a particular type of objective function that is used to summarise, as a single figure of merit, how close a given design solution is to achieving the set aims. Wikipedia

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IFitness Members

GeneticSharp.Domain.Fitnesses Namespace

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IFitness Members

Genetic Sharp

The IFitness type exposes the following members.

Methods

	Name	Description
=	Evaluate	Performs the evaluation against the specified chromosome.

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See Also

IFitness Interface

GeneticSharp.Domain.Fitnesses Namespace

IFitness Methods

Genetic Sharp

The IFitness type exposes the following members.

Methods

	Name	Description
≡	Evaluate	Performs the evaluation against the specified chromosome.

Back to Top

See Also

IFitness Interface

GeneticSharp.Domain.Fitnesses Namespace

IFitness Evaluate Method

GeneticSharp

Performs the evaluation against the specified chromosome.

Namespace: GeneticSharp.Domain.Fitnesses

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome to be evaluated.

Return Value

Type: Pouble

The fitness of the chromosome.

See Also

IFitness Interface

IFitness Members

GeneticSharp.Domain.Fitnesses Namespace

GeneticSharp.Domain.Mutations Namespace

Genetic Sharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Mutations"]

Classes

	Class	Description
4 \$	MutationBase	Base class for IMutation's implementation.
4 3	MutationException	Exception throw when an error occurs during the execution of mutate.
4 \$	MutationService	Mutation service.
4 \$	ReverseSequenceMutation	Reverse Sequence Mutation (RSM). Remarks
		In the reverse sequence mutation operator, we take a sequence S limited by two positions i and j randomly chosen, such that i <j. analyzing="" as="" be="" been="" by="" covered="" gene="" has="" in="" mutation="" of="" operation.="" operators="" order="" performance="" previous="" problem<="" reversed="" salesman="" same="" sequence="" solve="" th="" the="" this="" to="" travelling="" way="" what="" will=""></j.>
43	TworsMutation	Twors mutation allows the exchange of position of two genes randomly chosen. Remarks Analyzing the Performance of Mutation Operators to Solve the Travelling Salesman Problem
4 \$	UniformMutation	This operator replaces the value of the chosen gene with a uniform random value selected between the user-specified upper and lower bounds for that gene. Wikipedia

Interfaces

	Interface	Description
⊶ 0	IMutation	http://en.wikipedia.org/wiki/Mutation_(genetic_algorithm)

IMutation Interface

GeneticSharp

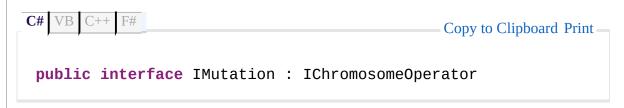
http://en.wikipedia.org/wiki/Mutation_(genetic_algorithm)

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IMutation Members

GeneticSharp.Domain.Mutations Namespace

IMutation Members

Genetic Sharp

The IMutation type exposes the following members.

Methods

	Name	Description
≡	Mutate	Mutate the specified chromosome.

Back to Top

Properties

Name	Description
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from IChromosomeOperator.)

Back to Top

See Also

IMutation Interface

GeneticSharp.Domain.Mutations Namespace

IMutation Methods

Genetic Sharp

The IMutation type exposes the following members.

Methods

	Name	Description
=0	Mutate	Mutate the specified chromosome.

Back to Top

See Also

IMutation Interface

GeneticSharp.Domain.Mutations Namespace

IMutation Mutate Method

GeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

void Mutate(
    IChromosome chromosome,
    float probability
)
```

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

See Also

IMutation Interface

IMutation Members

GeneticSharp.Domain.Mutations Namespace

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IMutation Properties

Genetic Sharp

The IMutation type exposes the following members.

Properties

	Name	Description
		Gets if the operator is ordered (if can keep the chromosome order). (Inherited from IChromosomeOperator.)

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See Also

IMutation Interface

GeneticSharp.Domain.Mutations Namespace

MutationBase Class

GeneticSharp

Base class for IMutation's implementation.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Mutations MutationBase

GeneticSharp.Domain.Mutations ReverseSequenceMutation

GeneticSharp.Domain.Mutations TworsMutation

GeneticSharp.Domain.Mutations UniformMutation

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

MutationBase Members

GeneticSharp.Domain.Mutations Namespace

The MutationBase type exposes the following members.

Constructors

	Name	Description
<u></u>	MutationBase	Initializes a new instance of the MutationBase class

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
**	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=0	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
<u> </u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	Mutate	Mutate the specified chromosome.
9	PerformMutate	Mutate the specified chromosome.
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

	Name	Description	
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).	

Back to Top

See Also

MutationBase Class GeneticSharp.Domain.Mutations Namespace

MutationBase Constructor

GeneticSharp

Initializes a new instance of the MutationBase class

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

MutationBase Class

MutationBase Members

GeneticSharp.Domain.Mutations Namespace

The MutationBase type exposes the following members.

Methods

	Name	Description
≡ ₩	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ 🍑	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	Mutate	Mutate the specified chromosome.
9	PerformMutate	Mutate the specified chromosome.
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

MutationBase Class

GeneticSharp.Domain.Mutations Namespace

MutationBase Mutate Method

GeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void Mutate(
    IChromosome chromosome,
    float probability
)
```

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

Implements

IMutation Mutate(IChromosome, Single)

See Also

MutationBase Class

MutationBase Members

GeneticSharp.Domain.Mutations Namespace

MutationBase PerformMutate Method

GeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

See Also

MutationBase Class

MutationBase Members

GeneticSharp.Domain.Mutations Namespace

MutationBase Properties

Genetic Sharp

The MutationBase type exposes the following members.

Properties

	Name	Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order).

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See Also

MutationBase Class

GeneticSharp.Domain.Mutations Namespace

MutationBase IsOrdered Property

GeneticSharp

Gets if the operator is ordered (if can keep the chromosome order).

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public bool IsOrdered { get; protected set; }
```

Property Value

Type: Boolean

Implements

IChromosomeOperator IsOrdered

See Also

MutationBase Class

MutationBase Members

GeneticSharp.Domain.Mutations Namespace

MutationException Class

GeneticSharp

Exception throw when an error occurs during the execution of mutate.

Inheritance Hierarchy

System Object System Exception

GeneticSharp.Domain.Mutations MutationException

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

MutationException Members
GeneticSharp.Domain.Mutations Namespace

The MutationException type exposes the following members.

Constructors

	Name	Description
≡	MutationException	Initializes a new instance of the MutationException class.
MutationException(String)		Initializes a new instance of the MutationException class.
≡	MutationException(String, Exception)	Initializes a new instance of the MutationException class.
=•	MutationException(IMutation, String)	Initializes a new instance of the MutationException class.
≡	MutationException(IMutation, String, Exception)	Initializes a new instance of the MutationException class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)

ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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Properties

	Name	Description
==	Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
	⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
	HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
	№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
	Message	Gets a message that describes the current exception. (Inherited from Exception.)
	Mutation	Gets the mutation.
	Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
	StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
	TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

MutationException Class GeneticSharp.Domain.Mutations Namespace

MutationException Constructor

GeneticSharp

Overload List

	Name	Description
≡	MutationException	Initializes a new instance of the MutationException class.
≡	MutationException(String)	Initializes a new instance of the MutationException class.
≡	MutationException(String, Exception)	Initializes a new instance of the MutationException class.
≡	MutationException(IMutation, String)	Initializes a new instance of the MutationException class.
≡	MutationException(IMutation, String, Exception)	Initializes a new instance of the MutationException class.

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See Also

MutationException Class MutationException Members GeneticSharp.Domain.Mutations Namespace

MutationException Constructor

GeneticSharp

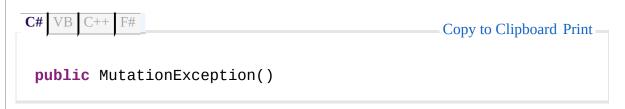
Initializes a new instance of the MutationException class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

MutationException Class

MutationException Members

MutationException Overload

GeneticSharp.Domain.Mutations Namespace

MutationException Constructor (String) GeneticSharp

Initializes a new instance of the MutationException class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public MutationException(
    string message
)
```

Parameters

message

Type: System String

The message that describes the error.

See Also

MutationException Class

MutationException Members

MutationException Overload

GeneticSharp.Domain.Mutations Namespace

MutationException Constructor (String, Exception)

GeneticSharp

Initializes a new instance of the MutationException class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public MutationException(
    string message,
    Exception innerException
)
```

Parameters

message

Type: System String

The error message that explains the reason for the exception.

innerException

Type: System Exception

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

See Also

MutationException Class

MutationException Members

MutationException Overload

GeneticSharp.Domain.Mutations Namespace

MutationException Constructor (IMutation, String)

GeneticSharp

Initializes a new instance of the MutationException class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public MutationException(
    IMutation mutation,
    string message
)
```

Parameters

mutation

Type: GeneticSharp.Domain.Mutations IMutation

The mutation where ocurred the error.

message

Type: System String

The error message.

See Also

MutationException Class

MutationException Members

MutationException Overload

GeneticSharp.Domain.Mutations Namespace

MutationException Constructor (IMutation, String, Exception)

GeneticSharp

Initializes a new instance of the MutationException class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
public MutationException(
    IMutation mutation,
    string message,
    Exception innerException
)
```

Parameters

mutation

Type: GeneticSharp.Domain.Mutations IMutation

The Mutation where ocurred the error.

message

Type: System String

The error message.

innerException

Type: System Exception

The inner exception.

See Also

MutationException Class

MutationException Members

MutationException Overload

GeneticSharp.Domain.Mutations Namespace

MutationException Methods

Genetic Sharp

The MutationException type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ [®]	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=•	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType	Gets the runtime type of the current instance. (Inherited from Exception.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=0	₽ ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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See Also

MutationException Class

GeneticSharp.Domain.Mutations Namespace

MutationException GetObjectData Method

GeneticSharp

Sets the **SerializationInfo with information about the exception.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public override void GetObjectData(
    SerializationInfo info,
    StreamingContext context
)
```

Parameters

info

Type: System.Runtime.Serialization SerializationInfo

The SerializationInfo that holds the serialized object data about the exception being thrown.

context

Type: System.Runtime.Serialization StreamingContext

The StreamingContext that contains contextual information about the source or destination.

Implements

ISerializable GetObjectData(SerializationInfo, StreamingContext)
Exception GetObjectData(SerializationInfo, StreamingContext)

See Also

MutationException Class

MutationException Members

GeneticSharp.Domain.Mutations Namespace

MutationException Properties

Genetic Sharp

The MutationException type exposes the following members.

Properties

Name	Description
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
Message	Gets a message that describes the current exception. (Inherited from Exception.)
Mutation	Gets the mutation.
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

MutationException Class

GeneticSharp.Domain.Mutations Namespace

MutationException Mutation Property Gen

GeneticSharp

Gets the mutation.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IMutation Mutation { get; private set; }
```

Property Value

Type: IMutation
The mutation.

See Also

MutationException Class

MutationException Members

GeneticSharp.Domain.Mutations Namespace

MutationService Class

GeneticSharp

Mutation service.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Mutations MutationService

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

MutationService Members

GeneticSharp.Domain.Mutations Namespace

MutationService Members

GeneticSharp

The MutationService type exposes the following members.

Methods

	Name	Description
=\$S	CreateMutationByName	Creates the IMutation's implementation with the specified name.
=♦S	GetMutationNames	Gets the available mutation names.
=♦S	GetMutationTypeByName	Gets the mutation type by the name.
=♦S	GetMutationTypes	Gets available mutation types.

Back to Top

See Also

MutationService Class

GeneticSharp.Domain.Mutations Namespace

MutationService Methods

Genetic Sharp

The MutationService type exposes the following members.

Methods

	Name	Description
=\$S	CreateMutationByName	Creates the IMutation's implementation with the specified name.
=\$S	GetMutationNames	Gets the available mutation names.
=\$S	GetMutationTypeByName	Gets the mutation type by the name.
∉ ∳S	GetMutationTypes	Gets available mutation types.

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See Also

MutationService Class

GeneticSharp.Domain.Mutations Namespace

MutationService CreateMutationByName Method

Genetic Sharp

Creates the IMutation's implementation with the specified name.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static IMutation CreateMutationByName(
    string name,
    params Object[] constructorArgs
)
```

Parameters

name

Type: System String The IMutation name.

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: IMutation

The IMutation's implementation instance.

See Also

MutationService Class

MutationService Members

GeneticSharp.Domain.Mutations Namespace

MutationService GetMutationNames Method

GeneticSharp

Gets the available mutation names.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#		Copy to Clipboard Print
public static	IList <string> GetMutation</string>	Names()

Return Value

Type: String The mutation names.

See Also

MutationService Class

MutationService Members

GeneticSharp.Domain.Mutations Namespace

MutationService GetMutationTypeByName GeneticSharp Method

Gets the mutation type by the name.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax C# VB C++ F# Copy to Clipboard Print public static Type GetMutationTypeByName(string *name* **Parameters** name Type: System String The name of mutation. **Return Value** Type: Type The mutation type. See Also **MutationService Class MutationService Members** GeneticSharp.Domain.Mutations Namespace

MutationService GetMutationTypes Method

GeneticSharp

Gets available mutation types.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F	" #	Copy to Clipboard Print
public sta	tic IList <type> GetMutationTy</type>	pes()

Return Value

Type: Type

All available mutation types.

See Also

MutationService Class

MutationService Members

GeneticSharp.Domain.Mutations Namespace

ReverseSequenceMutation Class

GeneticSharp

Reverse Sequence Mutation (RSM).

Remarks

In the reverse sequence mutation operator, we take a sequence S limited by two positions i and j randomly chosen, such that i<j. The gene order in this sequence will be reversed by the same way as what has been covered in the previous operation. Analyzing the Performance of Mutation Operators to Solve the Travelling Salesman Problem

Inheritance Hierarchy

System Object GeneticSharp.Domain.Mutations MutationBase

GeneticSharp.Domain.Mutations ReverseSequenceMutation

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReverseSequenceMutation Members GeneticSharp.Domain.Mutations Namespace

The ReverseSequenceMutation type exposes the following members.

Constructors

	Name	Description	
≡	ReverseSequenceMutation	Initializes a new instance of the ReverseSequenceMutation class.	

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
<u></u>	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Properties

Name	Description
IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

Back to Top

See Also

ReverseSequenceMutation Class GeneticSharp.Domain.Mutations Namespace

ReverseSequenceMutation Constructor GeneticSharp

Initializes a new instance of the ReverseSequenceMutation class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReverseSequenceMutation Class
ReverseSequenceMutation Members
GeneticSharp.Domain.Mutations Namespace

ReverseSequenceMutation Methods

Genetic Sharp

The ReverseSequenceMutation type exposes the following members.

Methods

	Name	Description
Ξ₩	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ ♥	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=•	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡ 	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
<u></u>	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

ReverseSequenceMutation Class GeneticSharp.Domain.Mutations Namespace

ReverseSequenceMutation PerformMutateGeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

See Also

ReverseSequenceMutation Class

ReverseSequenceMutation Members

GeneticSharp.Domain.Mutations Namespace

ReverseSequenceMutation Properties

GeneticSharp

The ReverseSequenceMutation type exposes the following members.

Properties

	Name	Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

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See Also

ReverseSequenceMutation Class GeneticSharp.Domain.Mutations Namespace

TworsMutation Class

GeneticSharp

Twors mutation allows the exchange of position of two genes randomly chosen.

Remarks

Analyzing the Performance of Mutation Operators to Solve the Travelling Salesman Problem

Inheritance Hierarchy

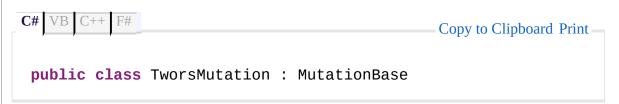
System Object GeneticSharp.Domain.Mutations MutationBase GeneticSharp.Domain.Mutations TworsMutation

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TworsMutation Members
GeneticSharp.Domain.Mutations Namespace

The TworsMutation type exposes the following members.

Constructors

	Name	Description	
≡	TworsMutation	Initializes a new instance of the TworsMutation class.	

Back to Top

Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u>ş</u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
₹ •	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
=	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

	Name	Description
		Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

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See Also

TworsMutation Class GeneticSharp.Domain.Mutations Namespace

TworsMutation Constructor

GeneticSharp

Initializes a new instance of the TworsMutation class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TworsMutation Class

TworsMutation Members

GeneticSharp.Domain.Mutations Namespace

The TworsMutation type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified **Object is equal to the current **Object . (Inherited from **Object .)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡ 	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡ 	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
9	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

TworsMutation Class

GeneticSharp.Domain.Mutations Namespace

TworsMutation PerformMutate Method GeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

See Also

TworsMutation Class

TworsMutation Members

GeneticSharp.Domain.Mutations Namespace

TworsMutation Properties

Genetic Sharp

The TworsMutation type exposes the following members.

Properties

	Name	Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

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See Also

TworsMutation Class

GeneticSharp.Domain.Mutations Namespace

UniformMutation Class

GeneticSharp

This operator replaces the value of the chosen gene with a uniform random value selected between the user-specified upper and lower bounds for that gene. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Mutations MutationBase

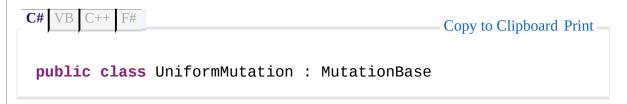
GeneticSharp.Domain.Mutations UniformMutation

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

UniformMutation Members GeneticSharp.Domain.Mutations Namespace

The UniformMutation type exposes the following members.

Constructors

	Name	Description
≡	UniformMutation(Boolean)	Initializes a new instance of the UniformMutation class.
≡	UniformMutation(Int32)	Initializes a new instance of the UniformMutation class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current
		Object. (Inherited from Object.)
**	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
ē.	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description



IsOrdered | Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

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See Also

UniformMutation Class GeneticSharp.Domain.Mutations Namespace

UniformMutation Constructor

GeneticSharp

Overload List

		Name	Description
	≡	UniformMutation(Boolean)	Initializes a new instance of the UniformMutation class.
	≡	UniformMutation(Int32)	Initializes a new instance of the UniformMutation class.

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See Also

UniformMutation Class
UniformMutation Members
GeneticSharp.Domain.Mutations Namespace

UniformMutation Constructor (Boolean) GeneticSharp

Initializes a new instance of the UniformMutation class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print —

public UniformMutation(
    bool allGenesMutable
)
```

Parameters

allGenesMutable

Type: System Boolean

If set to true all genes are mutable.

See Also

UniformMutation Class

UniformMutation Members

UniformMutation Overload

GeneticSharp.Domain.Mutations Namespace

UniformMutation Constructor (Int32) GeneticSharp

Initializes a new instance of the UniformMutation class.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public UniformMutation(
    params int[] mutableGenesIndexes
)
```

Parameters

mutableGenesIndexes

Type: System Int32 Mutable genes indexes.

See Also

UniformMutation Class

UniformMutation Members

UniformMutation Overload

GeneticSharp.Domain.Mutations Namespace

UniformMutation Methods

Genetic Sharp

The UniformMutation type exposes the following members.

Methods

	Name	Description
Ξ₩	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ ♥	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡ 	Mutate	Mutate the specified chromosome. (Inherited from MutationBase.)
<u></u>	PerformMutate	Mutate the specified chromosome. (Overrides MutationBase PerformMutate(IChromosome, Single).)
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

UniformMutation Class

GeneticSharp.Domain.Mutations Namespace

UniformMutation PerformMutate Method GeneticSharp

Mutate the specified chromosome.

Namespace: GeneticSharp.Domain.Mutations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

chromosome

Type: GeneticSharp.Domain.Chromosomes IChromosome

The chromosome.

probability

Type: System Single

The probability to mutate each chromosome.

See Also

UniformMutation Class

UniformMutation Members

GeneticSharp.Domain.Mutations Namespace

UniformMutation Properties

Genetic Sharp

The UniformMutation type exposes the following members.

Properties

Name Description		Description
	IsOrdered	Gets if the operator is ordered (if can keep the chromosome order). (Inherited from MutationBase.)

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See Also

UniformMutation Class GeneticSharp.Domain.Mutations Namespace

GeneticSharp.Domain.Populations Namespace

GeneticSharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Populations"]

Classes

	Class	Description
*	Generation	Represents a generation of a population.
9 3	PerformanceGenerationStrategy	An IGenerationStrategy's implementation wich takes into account the performance just keep the last one generations in the population.
		Remarks
		This strategy is not good for tracking all the generations, for this case use TrackingGenerationStrategy, but is the best one when you have a very long term termination.
43	Population	Represents a population of candidate solutions (chromosomes).
4 \$	PopulationService	Population service.
4 3	TrackingGenerationStrategy	An IGenerationStrategy's implementation that keeps all generations to further avaliation.
		Remarks
		This strategy can be slow and can suffer of OutOfMemoryException when you have great population and a long term termination.

Interfaces

	Interface	Description	
⊶ 0		Defines a strategy to some key points of generation behavior inside a population.	

Generation Class

GeneticSharp

Represents a generation of a population.

Inheritance Hierarchy

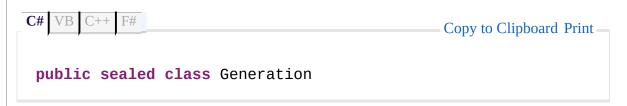
System Object GeneticSharp.Domain.Populations Generation

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

Generation Members

GeneticSharp.Domain.Populations Namespace

The Generation type exposes the following members.

Constructors

	Name	Description	
=	Generation	Initializes a new instance of the Generation class.	

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Methods

	Name	Description	
≡	End	Ends the generation.	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
**	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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Properties

	Name	Description
	BestChromosome	Gets or sets the best chromosome.
	Chromosomes	Gets or sets the chromosomes.
~	CreationDate	Gets the creation date.

Number	Gets the number.		
Back to Top			
See Also			
Generation Class			
GeneticSharp.Domain.Populations Namespace			

Generation Constructor

GeneticSharp

Initializes a new instance of the Generation class.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public Generation(
   int number,
   IList<IChromosome> chromosomes
)
```

Parameters

number

Type: System Int32

The generation number.

chromosomes

Type: System.Collections.Generic IList IChromosome

The chromosomes of the generation..

See Also

Generation Class

Generation Members

GeneticSharp.Domain.Populations Namespace

 ${\color{red} Send} \ Feedback\ on\ this\ topic\ to\ gia comelli@gmail.com.$

The Generation type exposes the following members.

Methods

	Name	Description	
≡	End	Ends the generation.	
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
ē	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

Generation Class

GeneticSharp.Domain.Populations Namespace

Generation End Method

GeneticSharp

Ends the generation.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public void End(
    int chromosomesNumber
)
```

Parameters

chromosomesNumber

Type: System Int32

Chromosomes number to keep on generation.

See Also

Generation Class

Generation Members

GeneticSharp.Domain.Populations Namespace

Generation Properties

Genetic Sharp

The Generation type exposes the following members.

Properties

Name	Description
BestChromosome	Gets or sets the best chromosome.
Chromosomes	Gets or sets the chromosomes.
CreationDate	Gets the creation date.
Number	Gets the number.

Back to Top

See Also

Generation Class

GeneticSharp.Domain.Populations Namespace

Generation BestChromosome Property GeneticSharp

Gets or sets the best chromosome.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IChromosome BestChromosome { get; internal set; }
```

Property Value

Type: IChromosome
The best chromosome.

See Also

Generation Class

Generation Members

GeneticSharp.Domain.Populations Namespace

Generation Chromosomes Property

GeneticSharp

Gets or sets the chromosomes.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                — Copy to Clipboard Print —
 public IList<IChromosome> Chromosomes { get; internal set; }
```

Property Value

Type: IList IChromosome

The chromosomes.

See Also

Generation Class

Generation Members

GeneticSharp.Domain.Populations Namespace

Generation CreationDate Property

GeneticSharp

Gets the creation date.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                — Copy to Clipboard Print —
  public DateTime CreationDate { get; private set; }
Property Value
Type: DateTime
See Also
```

Generation Class

Generation Members

GeneticSharp.Domain.Populations Namespace

Generation Number Property

GeneticSharp

Gets the number.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int Number { get; private set; }

Property Value
Type: Int32
The number.

See Also

Generation Class
Generation Members
GeneticSharp.Domain.Populations Namespace
```

IGenerationStrategy Interface

Genetic Sharp

Defines a strategy to some key points of generation behavior inside a population.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434



See Also

IGenerationStrategy Members GeneticSharp.Domain.Populations Namespace

IGenerationStrategy Members

Genetic Sharp

The IGenerationStrategy type exposes the following members.

Methods

	Name	Description
≡	RegisterNewGeneration	Register that a new generation has been created.

Back to Top

See Also

IGenerationStrategy Interface GeneticSharp.Domain.Populations Namespace

IGenerationStrategy Methods

Genetic Sharp

The IGenerationStrategy type exposes the following members.

Methods

	Name	Description
≡	RegisterNewGeneration	Register that a new generation has been created.

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See Also

IGenerationStrategy Interface GeneticSharp.Domain.Populations Namespace

IGenerationStrategy RegisterNewGeneration GeneticShar Method

Register that a new generation has been created.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

void RegisterNewGeneration(
Population population
)
```

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population where the new generation has been created.

See Also

IGenerationStrategy Interface

IGenerationStrategy Members

GeneticSharp.Domain.Populations Namespace

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ giacomelli@gmail.com.}}$

PerformanceGenerationStrategy Class

GeneticSharp

An IGenerationStrategy's implementation wich takes into account the performance just keep the last one generations in the population.

Remarks

This strategy is not good for tracking all the generations, for this case use TrackingGenerationStrategy, but is the best one when you have a very long term termination.

Inheritance Hierarchy



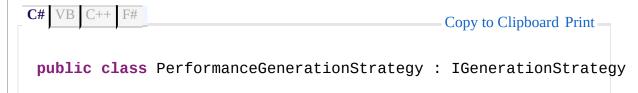
System Object GeneticSharp.Domain.Populations PerformanceGeneration!

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PerformanceGenerationStrategy Members GeneticSharp.Domain.Populations Namespace

${\bf Performance Generation Strategy\ Members\ Genetic Sharp}$

The PerformanceGenerationStrategy type exposes the following members.

Constructors

	Name	Description
#₩	PerformanceGenerationStrategy	Initializes a new instance of the PerformanceGenerationStrategy class.
≡	PerformanceGenerationStrategy(Int32)	Initializes a new instance of the PerformanceGenerationStrategy class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹ •	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Cobject.)
9	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	RegisterNewGeneration	Register that a new generation has been created.
=	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description
GenerationsNumber	Gets os sets the number of generations to keep in the population. The

Back to Top

See Also

PerformanceGenerationStrategy Class
GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy Constructor

Genetic Sharp

Overload List

		Name	Description
=	•	PerformanceGenerationStrategy	Initializes a new instance of the PerformanceGenerationStrategy class.
=	•	PerformanceGenerationStrategy(Int32)	Initializes a new instance of the PerformanceGenerationStrategy class.

Back to Top

See Also

PerformanceGenerationStrategy Class PerformanceGenerationStrategy Members GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy Constructor

Genetic Sharp

Initializes a new instance of the PerformanceGenerationStrategy class.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public PerformanceGenerationStrategy()</pre>	

See Also

PerformanceGenerationStrategy Class

PerformanceGenerationStrategy Members

PerformanceGenerationStrategy Overload

GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy Constructor (Int32)

GeneticSharp

Initializes a new instance of the PerformanceGenerationStrategy class.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public PerformanceGenerationStrategy(
    int generationsNumber
)
```

Parameters

generationsNumber

Type: System Int32

The number of generations to keep in the population

See Also

PerformanceGenerationStrategy Class

 $Performance Generation Strategy\ Members$

PerformanceGenerationStrategy Overload

GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy Methods GeneticSharp

The PerformanceGenerationStrategy type exposes the following members.

Methods

	Name	Description
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	RegisterNewGeneration	Register that a new generation has been created.
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

PerformanceGenerationStrategy Class GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy RegisterNewGenera Method

Register that a new generation has been created.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population where the new generation has been created.

Implements

IGenerationStrategy RegisterNewGeneration(Population)

Exceptions

Exception	Condition
System NotImplementedException	

See Also

PerformanceGenerationStrategy Class

PerformanceGenerationStrategy Members

GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy Properties

Genetic Sharp

The PerformanceGenerationStrategy type exposes the following members.

Properties

	Name	Description
7	GenerationsNumber	Gets os sets the number of generations to keep in the population. The default is 1.

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See Also

PerformanceGenerationStrategy Class GeneticSharp.Domain.Populations Namespace

PerformanceGenerationStrategy GenerationsNumber Property

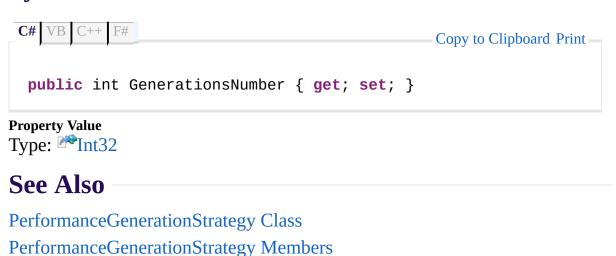
Gets os sets the number of generations to keep in the population. The default is 1.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



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GeneticSharp.Domain.Populations Namespace

Population Class

GeneticSharp

Represents a population of candidate solutions (chromosomes).

Inheritance Hierarchy

System Object GeneticSharp.Domain.Populations Population

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
public class Population	

See Also

Population Members

GeneticSharp.Domain.Populations Namespace

The Population type exposes the following members.

Constructors

	Name	Description	
≡	Population	Initializes a new instance of the Population class.	

Back to Top

Methods

	Name	Description
≡	CreateInitialGeneration	Creates the initial generation.
≡	CreateNewGeneration	Creates a new generation.
≡	EndCurrentGeneration	Ends the current generation.
=0	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=0	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Properties

Name	Description
BestChromosome	Gets the best chromosome.

CreationDate	Gets the creation date.
CurrentGeneration	Gets the current generation.
Generations	Gets the generations.
	Remarks
	The information of Generations can vary depending of the IGenerationStrategy used.
GenerationsNumber	Gets the total number of generations executed.
	Remarks
	Use this information to know how many generations have been executed, because Generations.Count can vary depending of the IGenerationStrategy used.
GenerationStrategy	Gets os sets the generation strategy.
MaxSize	Gets the size of the max.
MinSize	Gets the minimum size.

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Events

	Name	Description
3	BestChromosomeChanged	Occurs when best chromosome changed.

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See Also

Population Class

GeneticSharp.Domain.Populations Namespace

Population Constructor

GeneticSharp

Initializes a new instance of the Population class.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                  Copy to Clipboard Print –
  public Population(
          int minSize,
          int maxSize,
          IChromosome adamChromosome
  )
Parameters
minSize
 Type: System Int32
 The minimum size (chromosomes).
maxSize
 Type: System Int32
 The maximum size (chromosomes).
adamChromosome
 Type: GeneticSharp.Domain.Chromosomes IChromosome
 The original chromosome of all population;).
```

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

The Population type exposes the following members.

Methods

	Name	Description
≡	CreateInitialGeneration	Creates the initial generation.
≡	CreateNewGeneration	Creates a new generation.
≡	EndCurrentGeneration	Ends the current generation.
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
ē	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

Population Class

GeneticSharp.Domain.Populations Namespace

Population CreateInitialGeneration Method

Genetic Sharp

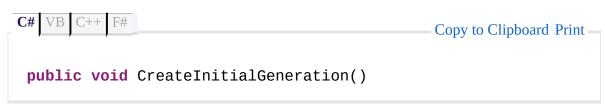
Creates the initial generation.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type:

The initial generation.

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population CreateNewGeneration Method GeneticSharp

Creates a new generation.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void CreateNewGeneration(
    IList<IChromosome> chromosomes
)
```

Parameters

chromosomes

Type: System.Collections.Generic IList IChromosome

Chromosomes.

Return Value

Type:

The new generation.

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population EndCurrentGeneration Method

Genetic Sharp

Ends the current generation.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

The Population type exposes the following members.

Properties

Name	Description	
BestChromosome	Gets the best chromosome.	
CreationDate	Gets the creation date.	
CurrentGeneration	Gets the current generation.	
Generations	Gets the generations.	
	Remarks	
	The information of Generations can vary depending of the IGenerationStrategy used.	
GenerationsNumber	Gets the total number of generations executed.	
	Remarks	
	Use this information to know how many generations have been executed, because Generations. Count can vary depending of the IGenerationStrategy used.	
GenerationStrategy	Gets os sets the generation strategy.	
MaxSize	Gets the size of the max.	
MinSize	Gets the minimum size.	

Back to Top

See Also

Population Class

GeneticSharp.Domain.Populations Namespace

Population BestChromosome Property

GeneticSharp

Gets the best chromosome.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public IChromosome BestChromosome { get; private set; }
```

Property Value

Type: IChromosome
The best chromosome.

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population CreationDate Property

GeneticSharp

Gets the creation date.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public DateTime CreationDate { get; private set; }

Property Value
Type: DateTime

See Also

Population Class
```

Population Members

GeneticSharp.Domain.Populations Namespace

Population CurrentGeneration Property GeneticSharp

Gets the current generation.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public Generation CurrentGeneration { get; private set; }
```

Property Value

Type: Generation

The current generation.

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population Generations Property

GeneticSharp

Gets the generations.

Remarks

The information of Generations can vary depending of the IGenerationStrategy used.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IList<Generation> Generations { get; private set; }
```

Property Value

Type: FIList Generation

The generations.

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population Generations Number Property Genetic Sharp

Gets the total number of generations executed.

Remarks

Use this information to know how many generations have been executed, because Generations.Count can vary depending of the IGenerationStrategy used.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int GenerationsNumber { get; private set; }

Property Value
Type: Int32

See Also

Population Class
```

Population Members

GeneticSharp.Domain.Populations Namespace

Population GenerationStrategy Property GeneticSharp

Gets os sets the generation strategy.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public IGenerationStrategy GenerationStrategy { get; set; }

Property Value
```

Type: IGenerationStrategy

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population MaxSize Property

GeneticSharp

Gets the size of the max.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int MaxSize { get; set; }

Property Value
Type: Int32
The size of the max.

See Also

Population Class
Population Members
```

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GeneticSharp.Domain.Populations Namespace

Population MinSize Property

GeneticSharp

Gets the minimum size.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                   Copy to Clipboard Print
  public int MinSize { get; set; }
Property Value
Type: Int32
The minimum size.
```

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

Population Events

Genetic Sharp

The Population type exposes the following members.

Events

	Name	Description
3	BestChromosomeChanged	Occurs when best chromosome changed.

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See Also

Population Class

GeneticSharp.Domain.Populations Namespace

Population BestChromosomeChanged Event

GeneticSharp

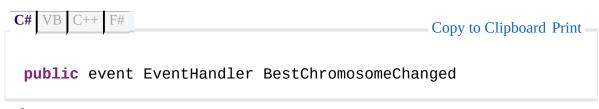
Occurs when best chromosome changed.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Value

Type: System EventHandler

See Also

Population Class

Population Members

GeneticSharp.Domain.Populations Namespace

PopulationService Class

GeneticSharp

Population service.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Populations PopulationService

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PopulationService Members

GeneticSharp.Domain.Populations Namespace

PopulationService Members

Genetic Sharp

The PopulationService type exposes the following members.

Methods

	Name	Description
ĕ∳S	CreateGenerationStrategyByName	Creates the IGenerationStrategy's implementation with the specified name.
=♦S	GetGenerationStrategyNames	Gets the available generation strategy names.
=♦S	GetGenerationStrategyTypeByName	Gets the generation strategy type by the name.
=♦S	GetGenerationStrategyTypes	Gets available generation strategy types.

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See Also

PopulationService Class GeneticSharp.Domain.Populations Namespace

PopulationService Methods

Genetic Sharp

The PopulationService type exposes the following members.

Methods

	Name	Description
≡ 0 S	CreateGenerationStrategyByName	Creates the IGenerationStrategy's implementation with the specified name.
=♦S	GetGenerationStrategyNames	Gets the available generation strategy names.
=♦S	GetGenerationStrategyTypeByName	Gets the generation strategy type by the name.
=♦S	GetGenerationStrategyTypes	Gets available generation strategy types.

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See Also

PopulationService Class GeneticSharp.Domain.Populations Namespace

PopulationService CreateGenerationStrategyByName Method

Creates the IGenerationStrategy's implementation with the specified name.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

name

Type: System String

The generation strategy name.

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: IGenerationStrategy

The generation strategy implementation instance.

See Also

PopulationService Class

PopulationService Members

GeneticSharp.Domain.Populations Namespace

PopulationService GetGenerationStrategyNamesGeneti Method

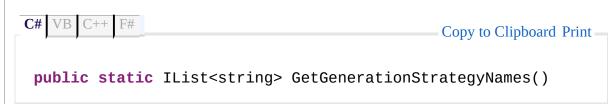
Gets the available generation strategy names.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: String

The generation strategy names.

See Also

PopulationService Class

PopulationService Members

GeneticSharp.Domain.Populations Namespace

PopulationService GetGenerationStrategyTypeByNar Method

Gets the generation strategy type by the name.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public static Type GetGenerationStrategyTypeByName(
    string name
)
```

Parameters

name

Type: System String

The name of generation strategy.

Return Value

Type: Type

The generation strategy type.

See Also

PopulationService Class

PopulationService Members

GeneticSharp.Domain.Populations Namespace

PopulationService GetGenerationStrategyTypesGenetic! Method

Gets available generation strategy types.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Type

All available generation strategy types.

See Also

PopulationService Class

PopulationService Members

GeneticSharp.Domain.Populations Namespace

TrackingGenerationStrategy Class

GeneticSharp

An IGenerationStrategy's implementation that keeps all generations to further avaliation.

Remarks

This strategy can be slow and can suffer of OutOfMemoryException when you have great population and a long term termination.

Inheritance Hierarchy



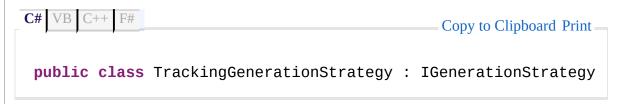
System Object GeneticSharp.Domain.Populations TrackingGenerationStra

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TrackingGenerationStrategy Members
GeneticSharp.Domain.Populations Namespace

TrackingGenerationStrategy Members

GeneticSharp

The TrackingGenerationStrategy type exposes the following members.

Constructors

	Name	Description
≡	TrackingGenerationStrategy	Initializes a new instance of the TrackingGenerationStrategy class

Back to Top

Methods

	Name	Description	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
=0	GetType	Gets the type of the current instance. (Inherited from Object.)	
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
≡	RegisterNewGeneration	Register that a new generation has been created.	
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

TrackingGenerationStrategy Class GeneticSharp.Domain.Populations Namespace

TrackingGenerationStrategy Constructor GeneticSharp

Initializes a new instance of the TrackingGenerationStrategy class

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TrackingGenerationStrategy Class
TrackingGenerationStrategy Members
GeneticSharp.Domain.Populations Namespace

TrackingGenerationStrategy Methods

Genetic Sharp

The TrackingGenerationStrategy type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹ •	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=0	RegisterNewGeneration	Register that a new generation has been created.
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

TrackingGenerationStrategy Class GeneticSharp.Domain.Populations Namespace

TrackingGenerationStrategy RegisterNewGeneration Method

Register that a new generation has been created.

Namespace: GeneticSharp.Domain.Populations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void RegisterNewGeneration(
    Population population
)
```

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population where the new generation has been created.

Implements

IGenerationStrategy RegisterNewGeneration(Population)

See Also

TrackingGenerationStrategy Class

TrackingGenerationStrategy Members

GeneticSharp.Domain.Populations Namespace

GeneticSharp.Domain.Randomizations Namespace

Genetic Sharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Randomizations"]

Classes

	Class	Description
		An IRandomization implementation using System.Random has pseudo-number generator.
4 3	FastRandomRandomization	An IRandomization using Coolgreen's FastRandom (http://www.codeproject.com/Articles/9187/A-fast-equivalent-for-System-Random) has pseudo-number generator.
4 \$	RandomizationBase	Base class for randomization.
43	RandomizationProvider	The randomization provider use for all elements of current genetic algorithm execution.

Interfaces

	Interface	Description
o-0	IRandomization	Defines an interface for randomization.

BasicRandomization Class

GeneticSharp

An IRandomization implementation using System.Random has pseudonumber generator.

Inheritance Hierarchy

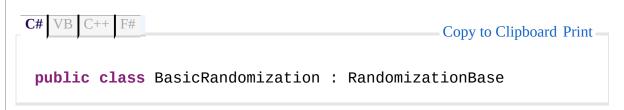
System Object GeneticSharp.Domain.Randomizations RandomizationBase GeneticSharp.Domain.Randomizations BasicRandomization

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

BasicRandomization Members GeneticSharp.Domain.Randomizations Namespace

The BasicRandomization type exposes the following members.

Constructors

	Name	Description	
≡	BasicRandomization	Initializes a new instance of the BasicRandomization class	

Back to Top

Methods

	Name	Description	
=₩	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
ē	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)	
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive). (Overrides RandomizationBase GetInt(Int32, Int32).)	
≡	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
≡	GetType	Gets the type of the current instance. (Inherited from Object.)	
≟	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	



Returns a string that represents the current object. (Inherited from bject.)

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See Also

BasicRandomization Class GeneticSharp.Domain.Randomizations Namespace

BasicRandomization Constructor

GeneticSharp

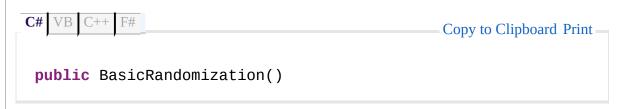
Initializes a new instance of the BasicRandomization class

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

BasicRandomization Class

BasicRandomization Members

GeneticSharp.Domain.Randomizations Namespace

The BasicRandomization type exposes the following members.

Methods

	Name	Description
=0	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive). (Overrides RandomizationBase GetInt(Int32, Int32).)
≡	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
≡	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)
ē	№ MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=•	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

BasicRandomization Class GeneticSharp.Domain.Randomizations Namespace

BasicRandomization GetDouble Method GeneticSharp

Overload List

	Name	Description
=0	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)

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See Also

BasicRandomization Class

BasicRandomization Members

GeneticSharp.Domain.Randomizations Namespace

BasicRandomization GetDouble Method GeneticSharp

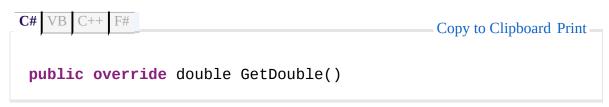
Gets a double value between 0.0 and 1.0.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Pouble

The double value.

Implements

IRandomization GetDouble

See Also

BasicRandomization Class

BasicRandomization Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

BasicRandomization GetInt Method

GeneticSharp

Gets an integer value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public override int GetInt(
   int min,
   int max
)
```

Parameters

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: MInt32

The integer. Implements

IRandomization GetInt(Int32, Int32)

See Also

BasicRandomization Class

BasicRandomization Members

GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization Class

GeneticSharp

An IRandomization using Coolgreen's FastRandom (http://www.codeproject.com/Articles/9187/A-fast-equivalent-for-System-Random) has pseudo-number generator.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Randomizations RandomizationBase GeneticSharp.Domain.Randomizations FastRandomRandomization

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FastRandomRandomization Members GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization Members

GeneticSharp

The FastRandomRandomization type exposes the following members.

Constructors

	Name	Description	
≡	FastRandomRandomization	Initializes a new instance of the FastRandomRandomization class	

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Methods

	Name	Description	
€ Equals		Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
ē	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)	
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive). (Overrides RandomizationBase GetInt(Int32, Int32).)	
GetInts Gets an integer array with values between minimum and maximum value (exclusive). (Inherited from RandomizationBase.)			
Gets the type of the current instance. (Inherited from Object.)			
≟	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	



Returns a string that represents the current object. (Inherited from bject.)

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See Also

FastRandomRandomization Class GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization Constructor GeneticSharp

Initializes a new instance of the FastRandomRandomization class

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FastRandomRandomization Class
FastRandomRandomization Members
GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization Methods

GeneticSharp

The FastRandomRandomization type exposes the following members.

Methods

	Name	Description	
≡	Equals	Determines whether the specified POD object is equal to the current OD object. (Inherited from POD object.)	
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)	
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive). (Overrides RandomizationBase GetInt(Int32, Int32).)	
≡	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
=0	GetType	Gets the type of the current instance. (Inherited from Object.)	
≡	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)	
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
=	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

FastRandomRandomization Class GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization GetDouble Method

GeneticSharp

Overload List

	Name	Description
=0	GetDouble	Gets a double value between 0.0 and 1.0. (Overrides RandomizationBase GetDouble .)
=0	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive). (Inherited from RandomizationBase.)

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See Also

FastRandomRandomization Class
FastRandomRandomization Members
GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization GetDouble Method

GeneticSharp

Gets a double value between 0.0 and 1.0.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public override double GetDouble()</pre>	

Return Value

Type: Pouble The double value.

Implements

IRandomization GetDouble

See Also

FastRandomRandomization Class

FastRandomRandomization Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

FastRandomRandomization GetInt Method

GeneticSharp

Gets an integer value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public override int GetInt(
   int min,
   int max
)
Parameters
```

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: MInt32

The integer. **Implements**

IRandomization GetInt(Int32, Int32)

See Also

FastRandomRandomization Class

FastRandomRandomization Members

GeneticSharp.Domain.Randomizations Namespace

IRandomization Interface

GeneticSharp

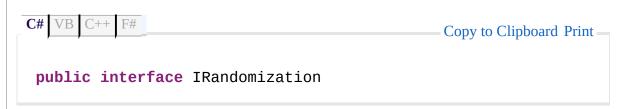
Defines an interface for randomization.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

IRandomization Members

GeneticSharp.Domain.Randomizations Namespace

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ gia comelli@gmail.com.}}$

IRandomization Members

GeneticSharp

The IRandomization type exposes the following members.

Methods

	Name	Description	
≡	GetDouble	Gets a double value between 0.0 and 1.0.	
=	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).	
=	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive).	
=•	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).	
≡	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).	

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See Also

IRandomization Interface

GeneticSharp.Domain.Randomizations Namespace

IRandomization Methods

Genetic Sharp

The IRandomization type exposes the following members.

Methods

	Name	Description
= 	GetDouble	Gets a double value between 0.0 and 1.0.
=	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).
=	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive).
≡	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).
≡	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).

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See Also

IRandomization Interface

GeneticSharp.Domain.Randomizations Namespace

IRandomization GetDouble Method

GeneticSharp

Overload List

	Name	Description
=	GetDouble	Gets a double value between 0.0 and 1.0.
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).

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See Also

IRandomization Interface

IRandomization Members

GeneticSharp.Domain.Randomizations Namespace

IRandomization GetDouble Method

GeneticSharp

Gets a double value between 0.0 and 1.0.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: **Double** The double value.

See Also

IRandomization Interface

IRandomization Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

IRandomization GetDouble Method (Double, Double)

GeneticSharp

Gets a double value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

double GetDouble(
    double min,
    double max
)
```

Parameters

min

Type: System Double

Minimum value.

max

Type: System Double

Max value.

Return Value

Type: **Double**The double value.

See Also

IRandomization Interface

IRandomization Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

IRandomization GetInt Method

GeneticSharp

Gets an integer value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

int GetInt(
   int min,
   int max
)
```

Parameters

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: [▶]Int32 The integer.

See Also

IRandomization Interface

IRandomization Members

GeneticSharp.Domain.Randomizations Namespace

Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                      Copy to Clipboard Print -
  int[] GetInts(
           int length,
           int min,
           int max
  )
Parameters
```

length

Type: System Int32

The array length

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: Int32

The integer array.

See Also

IRandomization Interface

IRandomization Members

GeneticSharp.Domain.Randomizations Namespace

IRandomization GetUniqueInts Method GeneticSharp

Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                     Copy to Clipboard Print -
  int[] GetUniqueInts(
           int length,
           int min,
           int max
  )
Parameters
length
 Type: System Int32
```

The array length

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: MInt32

The integer array.

See Also

IRandomization Interface

IRandomization Members

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase Class

GeneticSharp

Base class for randomization.

Inheritance Hierarchy



System Object GeneticSharp.Domain.Randomizations RandomizationBase

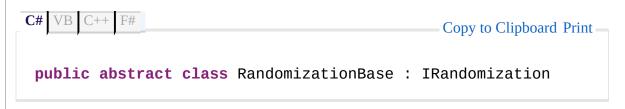
GeneticSharp.Domain.Randomizations BasicRandomization GeneticSharp.Domain.Randomizations FastRandomRandomization

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

RandomizationBase Members

GeneticSharp.Domain.Randomizations Namespace

The RandomizationBase type exposes the following members.

Constructors

	Name	Description
<u></u>	RandomizationBase	Initializes a new instance of the RandomizationBase class

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
		Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetDouble	Gets a double value between 0.0 and 1.0.
≡	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetInt	Gets an integer value between minimum value (inclusive) and maximum value (exclusive).
≡	GetInts	Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	₽ ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

RandomizationBase Class GeneticSharp.Domain.Randomizations Namespace

RandomizationBase Constructor

GeneticSharp

Initializes a new instance of the RandomizationBase class

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

RandomizationBase Class

RandomizationBase Members

GeneticSharp.Domain.Randomizations Namespace

The RandomizationBase type exposes the following members.

Methods

	Name	Description		
■ Equals		Determines whether the specified Object is equal to the current Object. (Inherited from Object.)		
operations t		Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)		
≡	GetDouble	Gets a double value between 0.0 and 1.0.		
=	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).		
≡	Serves as a hash function for a particular type. (Inherited from Object.)			
=♦ GetInt		Gets an integer value between minimum value (inclusive) and maximum value (exclusive).		
		Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).		
≡	GetType	Gets the type of the current instance. (Inherited from Object.)		
=	GetUniqueInts	Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).		
Ģ	MemberwiseClone	wiseClone Creates a shallow copy of the current Object. (Inherited from Object.)		
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)		

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See Also

RandomizationBase Class GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetDouble Method GeneticSharp

Overload List

	Name	Description
•	GetDouble	Gets a double value between 0.0 and 1.0.
■	GetDouble(Double, Double)	Gets a double value between minimum value (inclusive) and maximum value (exclusive).

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See Also

RandomizationBase Class

RandomizationBase Members

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetDouble Method GeneticSharp

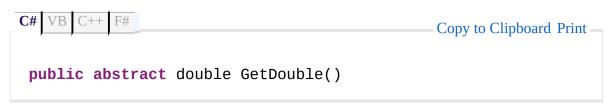
Gets a double value between 0.0 and 1.0.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Pouble

The double value.

Implements

IRandomization GetDouble

See Also

RandomizationBase Class

RandomizationBase Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetDouble Method (Double, Double)

GeneticSharp

Gets a double value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public virtual double GetDouble(
    double min,
    double max
)
```

Parameters

min

Type: System Double

Minimum value.

max

Type: System Double

Max value.

Return Value

Type: Double The double value.

Implements

IRandomization GetDouble(Double, Double)

See Also

RandomizationBase Class

RandomizationBase Members

GetDouble Overload

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetInt Method

GeneticSharp

Gets an integer value between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public abstract int GetInt(
   int min,
   int max
)
```

Parameters

min

Type: System Int32

Minimum value (inclusive).

max

Type: System Int32

Maximum value (exclusive).

Return Value

Type: MInt32

The integer. **Implements**

IRandomization GetInt(Int32, Int32)

See Also

RandomizationBase Class

RandomizationBase Members

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetInts Method

GeneticSharp

Gets an integer array with values between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                   Copy to Clipboard Print –
  public virtual int[] GetInts(
           int length,
           int min,
           int max
  )
Parameters
length
 Type: System Int32
 The array length
min
 Type: System Int32
 Minimum value (inclusive).
max
 Type: System Int32
 Maximum value (exclusive).
Return Value
```

Type: Int32

The integer array.

Implements

IRandomization GetInts(Int32, Int32, Int32)

See Also

RandomizationBase Class

RandomizationBase Members

GeneticSharp.Domain.Randomizations Namespace

RandomizationBase GetUniqueInts Method

GeneticSharp

Gets an integer array with unique values between minimum value (inclusive) and maximum value (exclusive).

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                   Copy to Clipboard Print –
  public virtual int[] GetUniqueInts(
           int length,
           int min,
           int max
  )
Parameters
length
 Type: System Int32
 The array length
min
 Type: System Int32
 Minimum value (inclusive).
max
 Type: System Int32
 Maximum value (exclusive).
Return Value
Type: Int32
The integer array.
Implements
```

See Also

RandomizationBase Class

IRandomization GetUniqueInts(Int32, Int32, Int32)

RandomizationBase Members GeneticSharp.Domain.Randomizations Namespace

RandomizationProvider Class

GeneticSharp

The randomization provider use for all elements of current genetic algorithm execution.

Inheritance Hierarchy

1

System Object GeneticSharp.Domain.Randomizations RandomizationProv.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

RandomizationProvider Members GeneticSharp.Domain.Randomizations Namespace

RandomizationProvider Members

Genetic Sharp

The RandomizationProvider type exposes the following members.

Properties

	Name	Description
₽ S	Current	Gets or sets the current IRandomization implementation.

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See Also

RandomizationProvider Class GeneticSharp.Domain.Randomizations Namespace

RandomizationProvider Properties

Genetic Sharp

The RandomizationProvider type exposes the following members.

Properties

	Name	Description
₽ S	Current	Gets or sets the current IRandomization implementation.

Back to Top

See Also

RandomizationProvider Class GeneticSharp.Domain.Randomizations Namespace

RandomizationProvider Current Property GeneticSharp

Gets or sets the current IRandomization implementation.

Namespace: GeneticSharp.Domain.Randomizations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public static IRandomization Current { get; set; }
```

Property Value

Type: IRandomization

The current.

See Also

RandomizationProvider Class

RandomizationProvider Members

 $Genetic Sharp. Domain. Randomizations\ Names pace$

GeneticSharp.Domain.Reinsertions Namespace

Genetic Sharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Reinsertions"]

Classes

	Class	Description
*	ElitistReinsertion	Elitist reinsertion.
		Remarks
		When there are less offspring than parents, select the best parents to be reinserted together with the offspring. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm
**	FitnessBasedReinsertion	Fitness Based Reinsertion.
		Remarks
		When there are more offspring than parents, select the only the best offspring to be reinserted, the parents are discarded. Generalized
		Nets Model of offspring Reinsertion in Genetic Algorithm
* \$	PureReinsertion	Pure Reinsertion.
		Remarks
		When there are same number of offspring than parents, select the offspring to be reinserted, the parents are discarded. Generalized
		Nets Model of offspring Reinsertion in Genetic Algorithm
*	ReinsertionBase	Base class for IReinsertion's implementations.
4 3	ReinsertionException	Exception throw when an error occurs during the execution of reinsert.
4 \$	ReinsertionService	Reinsertion service.
4 3	UniformReinsertion	Uniform Reinsertion.
		Remarks
		When there are less offspring than parents, select the offspring uniformly at random to be reinserted, the parents are discarded. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm

Interfaces

		Interface	Description
	~ ○	IReinsertion	Defines an interface for reinsertions.
			Remarks
			If less offspring are produced than the min size of the original population then to maintain the size of the population, the offspring have to be reinserted into the old population. Similarly, if not all offspring are to be used at each generation or if more offspring are generated than the max size of the population then a reinsertion scheme must be used to determine which individuals are to exist in the new population Generalized Nets Model of offspring Reinsertion in
			Genetic Algorithm

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ giacomelli@gmail.com.}}$

ElitistReinsertion Class

GeneticSharp

Elitist reinsertion.

Remarks

When there are less offspring than parents, select the best parents to be reinserted together with the offspring. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm

Inheritance Hierarchy

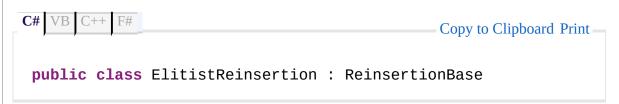
System Object GeneticSharp.Domain.Reinsertions ReinsertionBase GeneticSharp.Domain.Reinsertions ElitistReinsertion

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ElitistReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

The ElitistReinsertion type exposes the following members.

Constructors

	Name	Description
≡	ElitistReinsertion	Initializes a new instance of the ElitistReinsertion class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome, IList IChromosome).)
≡	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description

CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

Back to Top

See Also

ElitistReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

ElitistReinsertion Constructor

GeneticSharp

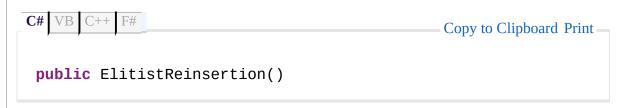
Initializes a new instance of the ElitistReinsertion class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ElitistReinsertion Class

ElitistReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

ElitistReinsertion Methods

Genetic Sharp

The ElitistReinsertion type exposes the following members.

Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē.	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome , IList IChromosome).)
=0	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

ElitistReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

ElitistReinsertion PerformSelectChromosomesGeneticSh Method

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

protected override IList<IChromosome> PerformSelectChromosomes(
    Population population,
    IList<IChromosome> offspring,
    IList<IChromosome> parents
)
```

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

ElitistReinsertion Class

ElitistReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

ElitistReinsertion Properties

Genetic Sharp

The ElitistReinsertion type exposes the following members.

Properties

		Name	Description
		CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
		CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

ElitistReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

FitnessBasedReinsertion Class

GeneticSharp

Fitness Based Reinsertion.

Remarks

When there are more offspring than parents, select the only the best offspring to be reinserted, the parents are discarded. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm

Inheritance Hierarchy

System Object GeneticSharp.Domain.Reinsertions ReinsertionBase GeneticSharp.Domain.Reinsertions FitnessBasedReinsertion

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessBasedReinsertion Members GeneticSharp.Domain.Reinsertions Namespace

The FitnessBasedReinsertion type exposes the following members.

Constructors

	Name	Description
≡	FitnessBasedReinsertion	Initializes a new instance of the FitnessBasedReinsertion class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome, IList IChromosome).)
≡	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

Properties

Name	Description

CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

FitnessBasedReinsertion Class GeneticSharp.Domain.Reinsertions Namespace

FitnessBasedReinsertion Constructor

Genetic Sharp

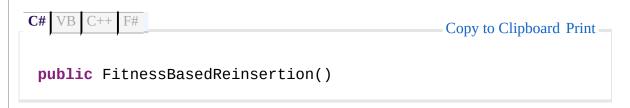
Initializes a new instance of the FitnessBasedReinsertion class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessBasedReinsertion Class FitnessBasedReinsertion Members GeneticSharp.Domain.Reinsertions Namespace

FitnessBasedReinsertion Methods

GeneticSharp

The FitnessBasedReinsertion type exposes the following members.

Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē.	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome , IList IChromosome).)
=0	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

FitnessBasedReinsertion Class GeneticSharp.Domain.Reinsertions Namespace

FitnessBasedReinsertion PerformSelectChromosomes Method

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

protected override IList<IChromosome> PerformSelectChromosomes(
    Population population,
    IList<IChromosome> offspring,
    IList<IChromosome> parents
)
```

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

FitnessBasedReinsertion Class

FitnessBasedReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

FitnessBasedReinsertion Properties

GeneticSharp

The FitnessBasedReinsertion type exposes the following members.

Properties

	Name	Description
7	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
Ī	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

FitnessBasedReinsertion Class GeneticSharp.Domain.Reinsertions Namespace

Defines an interface for reinsertions.

Remarks

If less offspring are produced than the min size of the original population then to maintain the size of the population, the offspring have to be reinserted into the old population. Similarly, if not all offspring are to be used at each generation or if more offspring are generated than the max size of the population then a reinsertion scheme must be used to determine which offspring Reinsertion in Genetic Algorithm

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax C# VB C++ F# Copy to Clipboard Print public interface IReinsertion See Also **IReinsertion Members**

GeneticSharp.Domain.Reinsertions Namespace

IReinsertion Members

Genetic Sharp

The IReinsertion type exposes the following members.

Methods

	Name	Description
≡	SelectChromosomes	Selects the chromosomes which will be reinserted.

Back to Top

Properties

		Name	Description	
-	Ī	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion.	
-	ì	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion.	

Back to Top

See Also

IReinsertion Interface

GeneticSharp.Domain.Reinsertions Namespace

IReinsertion Methods

Genetic Sharp

The IReinsertion type exposes the following members.

Methods

	Name	Description
≡	SelectChromosomes	Selects the chromosomes which will be reinserted.

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See Also

IReinsertion Interface

GeneticSharp.Domain.Reinsertions Namespace

IReinsertion SelectChromosomes Method GeneticSharp

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                  Copy to Clipboard Print —
  IList<IChromosome> SelectChromosomes(
          Population population,
          IList<IChromosome> offspring,
          IList<IChromosome> parents
  )
Parameters
```

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

IReinsertion Interface

IReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

IReinsertion Properties

Genetic Sharp

The IReinsertion type exposes the following members.

Properties

	Name	Description
	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion.
~	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion.

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See Also

IReinsertion Interface

GeneticSharp.Domain.Reinsertions Namespace

IReinsertion CanCollapse Property

Genetic Sharp

Gets if can collapse the number of selected chromosomes for reinsertion.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



IReinsertion CanExpand Property

Genetic Sharp

Gets if can expand the number of selected chromosomes for reinsertion.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



PureReinsertion Class

GeneticSharp

Pure Reinsertion.

Remarks

When there are same number of offspring than parents, select the offspring to be reinserted, the parents are discarded. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm

Inheritance Hierarchy

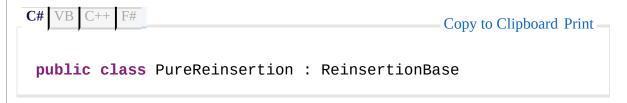
System Object GeneticSharp.Domain.Reinsertions ReinsertionBase GeneticSharp.Domain.Reinsertions PureReinsertion

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PureReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

The PureReinsertion type exposes the following members.

Constructors

	Name	Description
≡	PureReinsertion	Initializes a new instance of the PureReinsertion class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome, IList IChromosome).)
≡	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description

CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

PureReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

PureReinsertion Constructor

GeneticSharp

Initializes a new instance of the PureReinsertion class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

PureReinsertion Class

PureReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

PureReinsertion Methods

GeneticSharp

The PureReinsertion type exposes the following members.

Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē.	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome , IList IChromosome).)
=0	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

PureReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

PureReinsertion PerformSelectChromosomesGeneticShai Method

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

PureReinsertion Class

PureReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

PureReinsertion Properties

Genetic Sharp

The PureReinsertion type exposes the following members.

Properties

	Name	Description
	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

PureReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase Class

GeneticSharp

Base class for IReinsertion's implementations.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Reinsertions ReinsertionBase

GeneticSharp.Domain.Reinsertions ElitistReinsertion

GeneticSharp.Domain.Reinsertions FitnessBasedReinsertion

GeneticSharp.Domain.Reinsertions PureReinsertion

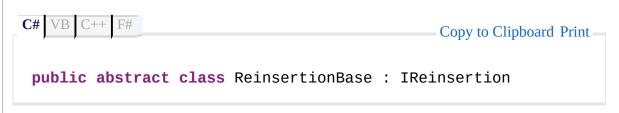
GeneticSharp.Domain.Reinsertions UniformReinsertion

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReinsertionBase Members

GeneticSharp.Domain.Reinsertions Namespace

The ReinsertionBase type exposes the following members.

Constructors

	Name	Description
<u></u>	ReinsertionBase	Initializes a new instance of the ReinsertionBase class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from becobject.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=0	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ [®]	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
**	PerformSelectChromosomes	Selects the chromosomes which will be reinserted.
≡	SelectChromosomes	Selects the chromosomes which will be reinserted.
=•	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description
CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion.
CanExpand	Gets if can expand the number of selected chromosomes for reinsertion.

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See Also

ReinsertionBase Class GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase Constructor

GeneticSharp

Initializes a new instance of the ReinsertionBase class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected ReinsertionBase(
    bool canCollapse,
    bool canExpand
)
```

Parameters

canCollapse

Type: System Boolean

If set to true can collapse the number of selected chromosomes for reinsertion.

canExpand

Type: System Boolean

If set to true can expand the number of selected chromosomes for reinsertion.

See Also

ReinsertionBase Class

ReinsertionBase Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase Methods

Genetic Sharp

The ReinsertionBase type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	₽© GetType	Gets the type of the current instance. (Inherited from Object.)
<u> </u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
*	PerformSelectChromosomes	Selects the chromosomes which will be reinserted.
≡	SelectChromosomes	Selects the chromosomes which will be reinserted.
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

ReinsertionBase Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase PerformSelectChromosomes_{GeneticShar} Method

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

ReinsertionBase Class

ReinsertionBase Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase SelectChromosomes Method

GeneticSharp

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

Implements

IReinsertion SelectChromosomes(Population, IList IChromosome, IList IChromosome)

See Also

ReinsertionBase Class

ReinsertionBase Members GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase Properties

Genetic Sharp

The ReinsertionBase type exposes the following members.

Properties

	Name	Description
	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion.
	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion.

Back to Top

See Also

ReinsertionBase Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase CanCollapse Property GeneticSharp

Gets if can collapse the number of selected chromosomes for reinsertion.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print — public bool CanCollapse { get; private set; }
```

Property Value

Type: Boolean

Implements

IReinsertion CanCollapse

See Also

ReinsertionBase Class

ReinsertionBase Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionBase CanExpand Property

GeneticSharp

Gets if can expand the number of selected chromosomes for reinsertion.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print — Copy to Clipboard Print — public bool CanExpand { get; private set; }
```

Property Value

Type: Boolean

Implements

IReinsertion CanExpand

See Also

ReinsertionBase Class

ReinsertionBase Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Class

GeneticSharp

Exception throw when an error occurs during the execution of reinsert.

Inheritance Hierarchy

System Object System Exception

GeneticSharp.Domain.Reinsertions ReinsertionException

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReinsertionException Members
GeneticSharp.Domain.Reinsertions Namespace

The ReinsertionException type exposes the following members.

Constructors

	Name	Description
≡	ReinsertionException	Initializes a new instance of the ReinsertionException class.
≡	ReinsertionException(String)	Initializes a new instance of the ReinsertionException class.
=•	ReinsertionException(String, Exception)	Initializes a new instance of the ReinsertionException class.
=•	ReinsertionException(IReinsertion, String)	Initializes a new instance of the ReinsertionException class.
=•	ReinsertionException(IReinsertion, String, Exception)	Initializes a new instance of the ReinsertionException class.

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)

ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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Properties

Name	Description
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
Message	Gets a message that describes the current exception. (Inherited from Exception.)
Reinsertion	Gets the reinsertion.
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

ReinsertionException Class GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor

GeneticSharp

Overload List

	Name	Description
≡	ReinsertionException	Initializes a new instance of the ReinsertionException class.
=	ReinsertionException(String)	Initializes a new instance of the ReinsertionException class.
=	ReinsertionException(String, Exception)	Initializes a new instance of the ReinsertionException class.
=	ReinsertionException(IReinsertion, String)	Initializes a new instance of the ReinsertionException class.
=	ReinsertionException(IReinsertion, String, Exception)	Initializes a new instance of the ReinsertionException class.

Back to Top

See Also

ReinsertionException Class
ReinsertionException Members
GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor

GeneticSharp

Initializes a new instance of the ReinsertionException class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReinsertionException Class

ReinsertionException Members

ReinsertionException Overload

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor (String) GeneticSharp

Initializes a new instance of the ReinsertionException class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public ReinsertionException(
    string message
)
```

Parameters

message

Type: System String

The message that describes the error.

See Also

ReinsertionException Class

ReinsertionException Members

ReinsertionException Overload

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor (String, GeneticSharp Exception)

Initializes a new instance of the ReinsertionException class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public ReinsertionException(
    string message,
    Exception innerException
)
```

Parameters

message

Type: System String

The error message that explains the reason for the exception.

innerException

Type: System Exception

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

See Also

ReinsertionException Class

ReinsertionException Members

ReinsertionException Overload

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor (IReinsertion, String)

GeneticSharp

Initializes a new instance of the ReinsertionException class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public ReinsertionException(
    IReinsertion reinsertion,
    string message
)
```

Parameters

reinsertion

Type: GeneticSharp.Domain.Reinsertions IReinsertion

The reinsertion where ocurred the error.

message

Type: System String

The error message.

See Also

ReinsertionException Class

ReinsertionException Members

ReinsertionException Overload

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Constructor (IReinsertion, String, Exception)

GeneticSharp

Initializes a new instance of the ReinsertionException class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
public ReinsertionException(
    IReinsertion reinsertion,
    string message,
    Exception innerException
)
```

Parameters

reinsertion

Type: GeneticSharp.Domain.Reinsertions IReinsertion

The Reinsertion where ocurred the error.

message

Type: System String

The error message.

innerException

Type: System Exception

The inner exception.

See Also

ReinsertionException Class

ReinsertionException Members

ReinsertionException Overload

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Methods

Genetic Sharp

The ReinsertionException type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
Ģ ♥	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)
=0	GetType GetType	Gets the runtime type of the current instance. (Inherited from Exception.)
Ģ [™]	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=•	₽ ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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See Also

ReinsertionException Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException GetObjectData Method

GeneticSharp

Sets the **SerializationInfo with information about the exception.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public override void GetObjectData(
    SerializationInfo info,
    StreamingContext context
)
```

Parameters

info

Type: System.Runtime.Serialization SerializationInfo

The SerializationInfo that holds the serialized object data about the exception being thrown.

context

Type: System.Runtime.Serialization StreamingContext

The StreamingContext that contains contextual information about the source or destination.

Implements

ISerializable GetObjectData(SerializationInfo, StreamingContext)

Exception GetObjectData(SerializationInfo, StreamingContext)

See Also

ReinsertionException Class

ReinsertionException Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Properties

GeneticSharp

The ReinsertionException type exposes the following members.

Properties

Name	Description
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
Message	Gets a message that describes the current exception. (Inherited from Exception.)
Reinsertion	Gets the reinsertion.
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)
TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

ReinsertionException Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionException Reinsertion Property

GeneticSharp

Gets the reinsertion.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public IReinsertion Reinsertion { get; private set; }
```

Property Value

Type: IReinsertion
The reinsertion.

See Also

ReinsertionException Class

ReinsertionException Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService Class

GeneticSharp

Reinsertion service.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Reinsertions ReinsertionService

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

ReinsertionService Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService Members

Genetic Sharp

The ReinsertionService type exposes the following members.

Methods

	Name	Description
ĕ∳S	CreateReinsertionByName	Creates the IReinsertion's implementation with the specified name.
=♦S	GetReinsertionNames	Gets the available reinsertion names.
=♦S	GetReinsertionTypeByName	Gets the reinsertion type by the name.
=♦S	GetReinsertionTypes	Gets available reinsertion types.

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See Also

ReinsertionService Class

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService Methods

Genetic Sharp

The ReinsertionService type exposes the following members.

Methods

	Name	Description
CreateReinsertionByName Creates the IReinsertion's name.		Creates the IReinsertion's implementation with the specified name.
=\$S	GetReinsertionNames	Gets the available reinsertion names.
=♦S	GetReinsertionTypeByName	Gets the reinsertion type by the name.
=\$S	GetReinsertionTypes	Gets available reinsertion types.

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See Also

ReinsertionService Class GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService CreateReinsertionByNameGeneticSh. Method

Creates the IReinsertion's implementation with the specified name.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static IReinsertion CreateReinsertionByName(
    string name,
    params Object[] constructorArgs
)
```

Parameters

name

Type: System String The reinsertion name.

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: IReinsertion

The reinsertion implementation instance.

See Also

ReinsertionService Class

ReinsertionService Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService GetReinsertionNames Method

GeneticSharp

Gets the available reinsertion names.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: List String The reinsertion names.

See Also

ReinsertionService Class

ReinsertionService Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService GetReinsertionTypeByNameGenetic Method

Gets the reinsertion type by the name.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

name

Type: System String
The name of reinsertion.

Return Value

Type: Type

The reinsertion type.

See Also

ReinsertionService Class

ReinsertionService Members

GeneticSharp.Domain.Reinsertions Namespace

ReinsertionService GetReinsertionTypes Method

GeneticSharp

Gets available reinsertion types.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Type

All available reinsertion types.

See Also

ReinsertionService Class

ReinsertionService Members

GeneticSharp.Domain.Reinsertions Namespace

UniformReinsertion Class

GeneticSharp

Uniform Reinsertion.

Remarks

When there are less offspring than parents, select the offspring uniformly at random to be reinserted, the parents are discarded. Generalized Nets Model of offspring Reinsertion in Genetic Algorithm

Inheritance Hierarchy

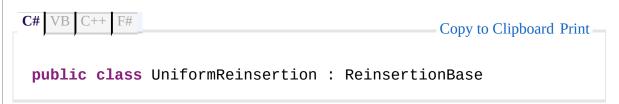
System Object GeneticSharp.Domain.Reinsertions ReinsertionBase GeneticSharp.Domain.Reinsertions UniformReinsertion

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

UniformReinsertion Members GeneticSharp.Domain.Reinsertions Namespace

The UniformReinsertion type exposes the following members.

Constructors

	Name	Description	
≡	UniformReinsertion	Initializes a new instance of the UniformReinsertion class.	

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome , IList IChromosome).)
≡	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description

	CanCollapse	Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
	CanExpand	Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

Back to Top

See Also

UniformReinsertion Class GeneticSharp.Domain.Reinsertions Namespace

UniformReinsertion Constructor

GeneticSharp

Initializes a new instance of the UniformReinsertion class.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

UniformReinsertion Class
UniformReinsertion Members
GeneticSharp.Domain.Reinsertions Namespace

UniformReinsertion Methods

GeneticSharp

The UniformReinsertion type exposes the following members.

Methods

	Name	Description
≅	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ÿ 🍑	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē.	PerformSelectChromosomes	Selects the chromosomes which will be reinserted. (Overrides ReinsertionBase PerformSelectChromosomes(Population, IList IChromosome , IList IChromosome).)
=0	SelectChromosomes	Selects the chromosomes which will be reinserted. (Inherited from ReinsertionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

UniformReinsertion Class

GeneticSharp.Domain.Reinsertions Namespace

UniformReinsertion PerformSelectChromosomesGenet Method

Selects the chromosomes which will be reinserted.

Namespace: GeneticSharp.Domain.Reinsertions

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

protected override IList<IChromosome> PerformSelectChromosomes(
    Population population,
    IList<IChromosome> offspring,
    IList<IChromosome> parents
)
```

Parameters

population

Type: GeneticSharp.Domain.Populations Population

The population.

offspring

Type: System.Collections.Generic IList IChromosome

The offspring.

parents

Type: System.Collections.Generic IList IChromosome

The parents.

Return Value

Type: FIList IChromosome

The chromosomes to be reinserted in next generation..

See Also

UniformReinsertion Class

UniformReinsertion Members

GeneticSharp.Domain.Reinsertions Namespace

UniformReinsertion Properties

Genetic Sharp

The UniformReinsertion type exposes the following members.

Properties

	Name	Description
CanCollapse Gets if can collapse the number of selected chromosomes for reins (Inherited from ReinsertionBase.)		Gets if can collapse the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)
CanExpand Gets if can expand the number of selected chromosomes for reinser (Inherited from ReinsertionBase.)		Gets if can expand the number of selected chromosomes for reinsertion. (Inherited from ReinsertionBase.)

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See Also

UniformReinsertion Class GeneticSharp.Domain.Reinsertions Namespace

Genetic Sharp

GeneticSharp.Domain.Selections Namespace

[Missing <summary> documentation for "N:GeneticSharp.Domain.Selections"]

Classes

	Class	Description
* \$	EliteSelection	Selects the chromosomes with the best fitness.
* \$	RouletteWheelSelection	Roulette Wheel Selection
		Remarks
		Is a kind of Fitness Proportionate Selection. Fitness-Proportionate Selection In the Roulette wheel selection method [Holland, 1992], the first step is to calculate the cumulative fitness of the whole population through the sum of the fitness of all individuals. After that, the probability of selection is calculated for each individual. Then, an array is built containing cumulative probabilities of the individuals. So, n random numbers are generated in the range 0 to fitness sum. and for each random number an array element which can have higher value is searched for. Therefore, individuals are selected according to their probabilities of selection.
4 \$	SelectionBase	A base class for selection.
4 \$	SelectionException	Exception throw when an error occurs during the execution of selection.
4 \$	SelectionService	Selection service.
*	StochasticUniversalSamplingSelection	Stochastic Universal Sampling.
		Remarks
		Is a kind of Fitness Proportionate Selection. Fitness-Proportionate Selection Stochastic Universal Sampling is an elaborately-named variation of roulette wheel selection. Stochastic Universal Sampling ensures that the observed selection frequencies of each individual are in line with the expected frequencies. So if we have an individual that occupies 4.5% of the wheel and we select 100 individuals, we would expect on average for that individual to be selected between four and five times. Stochastic Universal Sampling guarantees this. The individual

		will be selected either four times or five times, not three times, not zero times and not 100 times. Standard roulette wheel selection does not make this guarantee. Wikipedia
^ \$	TournamentSelection	Tournament selection involves running several "tournaments" among a few individuals chosen at random from the population. The winner of each tournament (the one with the best fitness) is selected for crossover.
		Remarks —
		Selection pressure is easily adjusted by changing the tournament size. If the tournament size is larger, weak individuals have a smaller chance to be selected.

Interfaces

	Interface	Description
₩0	ISelection	Defines a interface for selection. Selection is the stage of a genetic algorithm in which individual genomes are chosen from a population for later breeding (recombination or crossover). WikipediaA Review of Selection Methods in Genetic Algorithm

EliteSelection Class

GeneticSharp

Selects the chromosomes with the best fitness.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionBase

GeneticSharp.Domain.Selections EliteSelection

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Remarks

Also know as: Trucation Selection.

See Also

EliteSelection Members

GeneticSharp.Domain.Selections Namespace

The EliteSelection type exposes the following members.

Constructors

	Name	Description	
≡	EliteSelection	Initializes a new instance of the EliteSelection class.	

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ĕ •	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
≓	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

EliteSelection Class GeneticSharp.Domain.Selections Namespace

EliteSelection Constructor

GeneticSharp

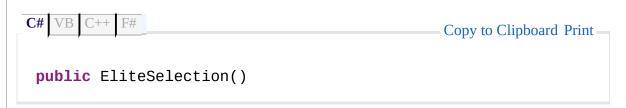
Initializes a new instance of the EliteSelection class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

EliteSelection Class

EliteSelection Members

GeneticSharp.Domain.Selections Namespace

The EliteSelection type exposes the following members.

Methods

	Name	Description
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡ ₩	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē.	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

EliteSelection Class

GeneticSharp.Domain.Selections Namespace

${\bf Elite Selection\ Perform Select Chromosomes}_{Genetic Sharp}$ **Method**

Performs the selection of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                 Copy to Clipboard Print —
 protected override IList<IChromosome> PerformSelectChromosomes(
          int number,
          Generation generation
 )
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: FIList IChromosome The select chromosomes.

See Also

EliteSelection Class

EliteSelection Members

GeneticSharp.Domain.Selections Namespace

ISelection Interface

GeneticSharp

Defines a interface for selection. Selection is the stage of a genetic algorithm in which individual genomes are chosen from a population for later breeding (recombination or crossover). WikipediaA Review of Selection Methods in Genetic Algorithm

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

C# VB C++ F# Copy to Clipboard Print public interface ISelection See Also ISelection Members GeneticSharp.Domain.Selections Namespace

ISelection Members

Genetic Sharp

The ISelection type exposes the following members.

Methods

	Name	Description
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified.

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See Also

ISelection Interface

GeneticSharp.Domain.Selections Namespace

ISelection Methods

Genetic Sharp

The ISelection type exposes the following members.

Methods

	Name	Description
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified.

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See Also

ISelection Interface

GeneticSharp.Domain.Selections Namespace

ISelection SelectChromosomes Method

GeneticSharp

Selects the number of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

IList<IChromosome> SelectChromosomes(
    int number,
    Generation
)
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: List IChromosome
The selected chromosomes.

See Also

ISelection Interface

ISelection Members

GeneticSharp.Domain.Selections Namespace

Roulette Wheel Selection

Remarks

Is a kind of Fitness Proportionate Selection. Fitness-Proportionate Selection In the Roulette wheel selection method [Holland, 1992], the first step is to calculate the cumulative fitness of the whole population through the sum of the fitness of all individuals. After that, the probability of selection is calculated for each individual. Then, an array is built containing cumulative probabilities of the individuals. So, n random numbers are generated in the range 0 to fitness sum. and for each random number an array element which can have higher value is searched for. Therefore, individuals are selected according to their probabilities of selection. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionBase

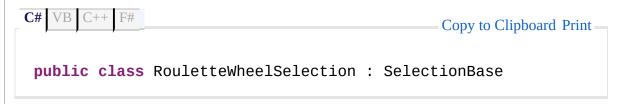
GeneticSharp.Domain.Selections RouletteWheelSelection

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

RouletteWheelSelection Members GeneticSharp.Domain.Selections Namespace

The RouletteWheelSelection type exposes the following members.

Constructors

	Name	Description	
≡	RouletteWheelSelection	Initializes a new instance of the RouletteWheelSelection class.	

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Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

RouletteWheelSelection Class GeneticSharp.Domain.Selections Namespace

RouletteWheelSelection Constructor

Genetic Sharp

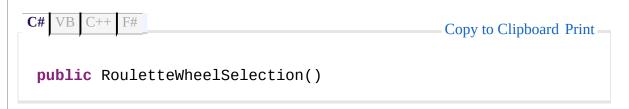
Initializes a new instance of the RouletteWheelSelection class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

RouletteWheelSelection Class
RouletteWheelSelection Members
GeneticSharp.Domain.Selections Namespace

RouletteWheelSelection Methods

Genetic Sharp

The RouletteWheelSelection type exposes the following members.

Methods

Name		Description	
∃	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
Ģ [¯] •	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≅	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≅©	GetType	Gets the type of the current instance. (Inherited from Object.)	
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.) es Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)	
₹	PerformSelectChromosomes		
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

RouletteWheelSelection Class GeneticSharp.Domain.Selections Namespace

RouletteWheelSelection PerformSelectChromosomes Method

Performs the selection of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected override IList<IChromosome> PerformSelectChromosomes(
    int number,
    Generation generation
)
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: List IChromosome
The select chromosomes.

See Also

RouletteWheelSelection Class

RouletteWheelSelection Members

GeneticSharp.Domain.Selections Namespace

SelectionBase Class

GeneticSharp

A base class for selection.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionBase

GeneticSharp.Domain.Selections EliteSelection

GeneticSharp.Domain.Selections RouletteWheelSelection

GeneticSharp.Domain.Selections StochasticUniversalSamplingSelection

GeneticSharp.Domain.Selections TournamentSelection

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

SelectionBase Members

GeneticSharp.Domain.Selections Namespace

SelectionBase Members

Genetic Sharp

The SelectionBase type exposes the following members.

Constructors

	Name	Description
<u></u>	SelectionBase	Initializes a new instance of the SelectionBase class.

Back to Top

Methods

	Name	Description	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
·	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Cobject.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≅	GetType	Gets the type of the current instance. (Inherited from Object.)	
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
<u></u>	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified.	
=	SelectChromosomes	Selects the number of chromosomes from the generation specified.	
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)	

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See Also

SelectionBase Class

GeneticSharp.Domain.Selections Namespace

SelectionBase Constructor

GeneticSharp

Initializes a new instance of the SelectionBase class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected SelectionBase(
    int minNumberChromosomes
)
```

Parameters

minNumberChromosomes

Type: System Int32

Minimum number chromosomes support to be selected.

See Also

SelectionBase Class

SelectionBase Members

GeneticSharp.Domain.Selections Namespace

The SelectionBase type exposes the following members.

Methods

	Name	Description	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
· · · · · · · · · · · · · · · · · · ·	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from bject.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡ 	GetType	Gets the type of the current instance. (Inherited from Object.) Creates a shallow copy of the current Object. (Inherited from Object.) Performs the selection of chromosomes from the generation specified.	
Ģ	MemberwiseClone		
<u> </u>	PerformSelectChromosomes		
≡	SelectChromosomes	Selects the number of chromosomes from the generation specified.	
Returns a string that represents (Inherited from Object.)		Returns a string that represents the current object. (Inherited from Object.)	

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See Also

SelectionBase Class

GeneticSharp.Domain.Selections Namespace

${\bf Selection Base\ Perform Select Chromosomes}_{\bf Genetic Sharp}$ Method

Performs the selection of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#
                                                 Copy to Clipboard Print —
 protected abstract IList<IChromosome> PerformSelectChromosomes(
          int number,
          Generation generation
 )
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: IList IChromosome The selected chromosomes.

See Also

SelectionBase Class

SelectionBase Members

GeneticSharp.Domain.Selections Namespace

SelectionBase SelectChromosomes Method GeneticSharp

Selects the number of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public IList<IChromosome> SelectChromosomes(
    int number,
    Generation generation
)
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: List IChromosome
The selected chromosomes.

Implements

ISelection SelectChromosomes(Int32, Generation)

See Also

SelectionBase Class

SelectionBase Members

GeneticSharp.Domain.Selections Namespace

SelectionException Class

GeneticSharp

Exception throw when an error occurs during the execution of selection.

Inheritance Hierarchy

System Object System Exception

GeneticSharp.Domain.Selections SelectionException

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

SelectionException Members
GeneticSharp.Domain.Selections Namespace

The SelectionException type exposes the following members.

Constructors

	Name	Description
=	SelectionException	Initializes a new instance of the SelectionException class.
=	SelectionException(String)	Initializes a new instance of the SelectionException class.
=	SelectionException(String, Exception)	Initializes a new instance of the SelectionException class.
≡	SelectionException(ISelection, String)	Initializes a new instance of the SelectionException class.
≡	SelectionException(ISelection, String, Exception)	Initializes a new instance of the SelectionException class.

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Methods

	Name	Description	
≅	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
=•	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)	
=0	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
=•	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)	
≅	₽ •GetType	Gets the runtime type of the current instance. (Inherited from Exception.)	

₹ •	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
≡	ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)

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Properties

Name Description		Description
	Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception.)
	⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)
	HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)
	№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)
Gets a message that describes the (Inherited from Exception.)		Gets a message that describes the current exception. (Inherited from Exception.)
	Selection	Gets the Selection.
	Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)
Gets a string representation of the frames on the call stack at current exception was thrown. (Inherited from Exception.)		
	TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)

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See Also

SelectionException Class GeneticSharp.Domain.Selections Namespace

SelectionException Constructor

GeneticSharp

Overload List

	Name	Description
≡	SelectionException	Initializes a new instance of the SelectionException class.
=	SelectionException(String)	Initializes a new instance of the SelectionException class.
=•	SelectionException(String, Exception)	Initializes a new instance of the SelectionException class.
=•	SelectionException(ISelection, String)	Initializes a new instance of the SelectionException class.
=•	SelectionException(ISelection, String, Exception)	Initializes a new instance of the SelectionException class.

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See Also

SelectionException Class
SelectionException Members
GeneticSharp.Domain.Selections Namespace

SelectionException Constructor

GeneticSharp

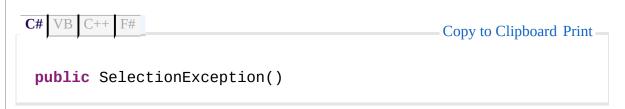
Initializes a new instance of the SelectionException class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

SelectionException Class

SelectionException Members

SelectionException Overload

GeneticSharp.Domain.Selections Namespace

SelectionException Constructor (String) GeneticSharp

Initializes a new instance of the SelectionException class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public SelectionException(
    string message
)
```

Parameters

message

Type: System String

The message that describes the error.

See Also

SelectionException Class

SelectionException Members

SelectionException Overload

GeneticSharp.Domain.Selections Namespace

SelectionException Constructor (String, Exception)

GeneticSharp

Initializes a new instance of the SelectionException class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public SelectionException(
    string message,
    Exception innerException
)
```

Parameters

message

Type: System String

The error message that explains the reason for the exception.

innerException

Type: System Exception

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

See Also

SelectionException Class

SelectionException Members

SelectionException Overload

GeneticSharp.Domain.Selections Namespace

SelectionException Constructor (ISelection, String)

GeneticSharp

Initializes a new instance of the SelectionException class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public SelectionException(
    ISelection selection,
    string message
)
```

Parameters

selection

Type: GeneticSharp.Domain.Selections ISelection

The Selection where ocurred the error.

message

Type: System String

The error message.

See Also

SelectionException Class

SelectionException Members

SelectionException Overload

GeneticSharp.Domain.Selections Namespace

SelectionException Constructor (ISelection, String, Exception)

GeneticSharp

Initializes a new instance of the SelectionException class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
public SelectionException(
    ISelection selection,
    string message,
    Exception innerException
)
```

Parameters

selection

Type: GeneticSharp.Domain.Selections ISelection

The Selection where ocurred the error.

message

Type: System String

The error message.

innerException

Type: System Exception

The inner exception.

See Also

SelectionException Class

SelectionException Members

SelectionException Overload

GeneticSharp.Domain.Selections Namespace

SelectionException Methods

Genetic Sharp

The SelectionException type exposes the following members.

Methods

	Name	Description	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
Ģ [®]	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetBaseException	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception.)	
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
=•	GetObjectData	Sets the SerializationInfo with information about the exception. (Overrides Exception GetObjectData(SerializationInfo, StreamingContext).)	
=0	GetType	Gets the runtime type of the current instance. (Inherited from Exception.)	
Ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
=0	₽ ToString	Creates and returns a string representation of the current exception. (Inherited from Exception.)	

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See Also

SelectionException Class

GeneticSharp.Domain.Selections Namespace

SelectionException GetObjectData MethodGeneticSharp

Sets the **SerializationInfo** with information about the exception.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public override void GetObjectData(
    SerializationInfo info,
    StreamingContext context
)
```

Parameters

info

Type: System.Runtime.Serialization SerializationInfo

The SerializationInfo that holds the serialized object data about the exception being thrown.

context

Type: System.Runtime.Serialization StreamingContext

The StreamingContext that contains contextual information about the source or destination.

Implements

☐ ISerializable GetObjectData(SerializationInfo, StreamingContext) ☐ Exception GetObjectData(SerializationInfo, StreamingContext)

See Also

SelectionException Class

SelectionException Members

GeneticSharp.Domain.Selections Namespace

SelectionException Properties

Genetic Sharp

The SelectionException type exposes the following members.

Properties

Name Description		Description	
Gets a collection of key/value pairs t information about the exception. (Inherited from Exception.)			
	⊮HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception.)	
	HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception.)	
	№ InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception.)	
	Message	Gets a message that describes the current exception. (Inherited from Exception.)	
	Selection	Gets the Selection.	
	Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception.)	
	StackTrace	Gets a string representation of the frames on the call stack at the time the current exception was thrown. (Inherited from Exception.)	
	TargetSite	Gets the method that throws the current exception. (Inherited from Exception.)	

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See Also

SelectionException Class

GeneticSharp.Domain.Selections Namespace

SelectionException Selection Property

GeneticSharp

Gets the Selection.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public ISelection Selection { get; private set; }
```

Property Value

Type: ISelection
The Selection.

See Also

SelectionException Class

SelectionException Members

GeneticSharp.Domain.Selections Namespace

SelectionService Class

Genetic Sharp

Selection service.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionService

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

SelectionService Members

GeneticSharp.Domain.Selections Namespace

SelectionService Members

GeneticSharp

The SelectionService type exposes the following members.

Methods

	Name	Description
=\$S	CreateSelectionByName	Creates the ISelection's implementation with the specified name.
=♦S	GetSelectionNames	Gets the available selection names.
=♦S	GetSelectionTypeByName	Gets the selection type by the name.
=♦S	GetSelectionTypes	Gets available selection types.

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See Also

SelectionService Class

GeneticSharp.Domain.Selections Namespace

SelectionService Methods

Genetic Sharp

The SelectionService type exposes the following members.

Methods

	Name	Description
=\$S	CreateSelectionByName	Creates the ISelection's implementation with the specified name.
=\$S	GetSelectionNames	Gets the available selection names.
=\$S	GetSelectionTypeByName	Gets the selection type by the name.
=\$S	GetSelectionTypes	Gets available selection types.

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See Also

SelectionService Class

GeneticSharp.Domain.Selections Namespace

SelectionService CreateSelectionByName Method

GeneticSharp

Creates the ISelection's implementation with the specified name.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static ISelection CreateSelectionByName(
    string name,
    params Object[] constructorArgs
)
```

Parameters

name

Type: System String
The selection name.

The selection name

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: ISelection

The selection implementation instance.

See Also

SelectionService Class

SelectionService Members

GeneticSharp.Domain.Selections Namespace

SelectionService GetSelectionNames Method

GeneticSharp

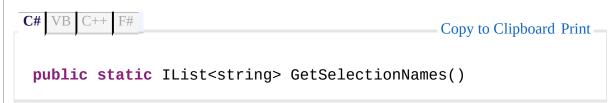
Gets the available selection names.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: String The selection names.

See Also

SelectionService Class

SelectionService Members

GeneticSharp.Domain.Selections Namespace

SelectionService GetSelectionTypeByNameGeneticSharp

Gets the selection type by the name.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

name

Type: System String The name of selection.

Return Value

Type: Type

The selection type.

See Also

SelectionService Class

SelectionService Members

GeneticSharp.Domain.Selections Namespace

SelectionService GetSelectionTypes Method

GeneticSharp

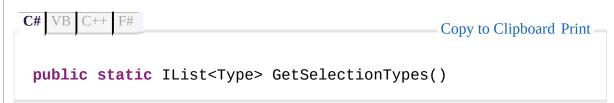
Gets available selection types.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Type

All available selection types.

See Also

SelectionService Class

SelectionService Members

GeneticSharp.Domain.Selections Namespace

StochasticUniversalSamplingSelection Class

GeneticSharp

Stochastic Universal Sampling.

Remarks

Is a kind of Fitness Proportionate Selection. Fitness-Proportionate Selection Stochastic Universal Sampling is an elaborately-named variation of roulette wheel selection. Stochastic Universal Sampling ensures that the observed selection frequencies of each individual are in line with the expected frequencies. So if we have an individual that occupies 4.5% of the wheel and we select 100 individuals, we would expect on average for that individual to be selected between four and five times. Stochastic Universal Sampling guarantees this. The individual will be selected either four times or five times, not three times, not zero times and not 100 times. Standard roulette wheel selection does not make this guarantee. Wikipedia

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionBase

 $Genetic Sharp. Domain. Selections\ Stochastic Universal Sampling Selection$

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
public class	StochasticUniversalSamplingSelection : SelectionBas

See Also

StochasticUniversalSamplingSelection Members GeneticSharp.Domain.Selections Namespace

StochasticUniversalSamplingSelection Members

Genetic Sharp

The StochasticUniversalSamplingSelection type exposes the following members.

Constructors

	Name	Description
≡	StochasticUniversalSamplingSelection	Initializes a new instance of the StochasticUniversalSamplingSelection class.

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Methods

	Name	Description
=♦	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē v	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
≅	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
≅	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

StochasticUniversalSamplingSelection Class GeneticSharp.Domain.Selections Namespace

StochasticUniversalSamplingSelection Constructor

Genetic Sharp

Initializes a new instance of the StochasticUniversalSamplingSelection class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
public StochasticUniversalSamplingSelection	on()

See Also

StochasticUniversalSamplingSelection Class StochasticUniversalSamplingSelection Members GeneticSharp.Domain.Selections Namespace

StochasticUniversalSamplingSelection Methods

GeneticSharp

The StochasticUniversalSamplingSelection type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
*	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
=	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

StochasticUniversalSamplingSelection Class GeneticSharp.Domain.Selections Namespace

StochasticUniversalSamplingSelection PerformSelect(Method

Performs the selection of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected override IList<IChromosome> PerformSelectChromosomes(
    int number,
    Generation generation
)
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: List IChromosome
The selected chromosomes.

See Also

 $Stochastic Universal Sampling Selection\ Class$

 $Stochastic Universal Sampling Selection\ Members$

GeneticSharp.Domain.Selections Namespace

TournamentSelection Class

GeneticSharp

Tournament selection involves running several "tournaments" among a few individuals chosen at random from the population. The winner of each tournament (the one with the best fitness) is selected for crossover.

Remarks

Selection pressure is easily adjusted by changing the tournament size. If the tournament size is larger, weak individuals have a smaller chance to be selected.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Selections SelectionBase

GeneticSharp.Domain.Selections TournamentSelection

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TournamentSelection Members
GeneticSharp.Domain.Selections Namespace

The TournamentSelection type exposes the following members.

Constructors

	Name	Description
≡	TournamentSelection	Initializes a new instance of the TournamentSelection class.
		Remarks
		The default Size is 2. The default AllowWinnerCompeteNextTournament is true.
≡	TournamentSelection(Int32)	Initializes a new instance of the TournamentSelection class.
		Remarks The default AllowWinnerCompeteNextTournament is true.
≡	TournamentSelection(Int32, Boolean)	Initializes a new instance of the TournamentSelection class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u> </u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)

٠	≡	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
	≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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Properties

Name	Description
AllowWinnerCompeteNextTournament	Gets or sets if allow any winner in a tournament to participate in the next tournament.
	Remarks
	In other words, if you want to allow a chromosome be selected more the one time.
Size	Gets or sets the size of the tournament.
	Remarks
	In other words, the number of chromosomes that will participate of each tournament until all need chromosomes be selected.

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See Also

TournamentSelection Class GeneticSharp.Domain.Selections Namespace

Overload List

	Name	Description
≡	TournamentSelection	Initializes a new instance of the TournamentSelection class.
		Remarks
		The default Size is 2. The default AllowWinnerCompeteNextTournament is true.
≡	TournamentSelection(Int32)	Initializes a new instance of the TournamentSelection class.
		Remarks The default AllowWinnerCompeteNextTournament is true.
=0	TournamentSelection(Int32, Boolean)	Initializes a new instance of the TournamentSelection class.

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See Also

TournamentSelection Class
TournamentSelection Members
GeneticSharp.Domain.Selections Namespace

TournamentSelection Constructor

GeneticSharp

Initializes a new instance of the TournamentSelection class.

Remarks

The default Size is 2. The default AllowWinnerCompeteNextTournament is true.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public TournamentSelection()</pre>	

See Also

TournamentSelection Class

TournamentSelection Members

TournamentSelection Overload

GeneticSharp.Domain.Selections Namespace

TournamentSelection Constructor (Int32) GeneticSharp

Initializes a new instance of the TournamentSelection class.

Remarks

The default AllowWinnerCompeteNextTournament is true.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public TournamentSelection(
    int size
)
```

Parameters

size

Type: System Int32

The size of the tournament, in other words, the number of chromosomes that will participate of each tournament until all need chromosomes be selected.

See Also

TournamentSelection Class

TournamentSelection Members

TournamentSelection Overload

GeneticSharp.Domain.Selections Namespace

TournamentSelection Constructor (Int32, Boolean) GeneticSharp

Initializes a new instance of the TournamentSelection class.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public TournamentSelection(
   int size,
   bool allowWinnerCompeteNextTournament
)
```

Parameters

size

Type: System Int32

The size of the tournament, in other words, the number of chromosomes that will participate of each tournament until all need chromosomes be selected.

allowWinnerCompeteNextTournament

Type: System Boolean

If allow any winner in a tournament participate in the next tournament, in other words, if you want to allow a chromosome be selected more the one time.

See Also

TournamentSelection Class

TournamentSelection Members

TournamentSelection Overload

GeneticSharp.Domain.Selections Namespace

TournamentSelection Methods

Genetic Sharp

The TournamentSelection type exposes the following members.

Methods

	Name	Description
≅	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
ģ	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
·	PerformSelectChromosomes	Performs the selection of chromosomes from the generation specified. (Overrides SelectionBase PerformSelectChromosomes(Int32, Generation).)
≅	SelectChromosomes	Selects the number of chromosomes from the generation specified. (Inherited from SelectionBase.)
=•	ToString	Returns a string that represents the current object. (Inherited from Object.)

Back to Top

See Also

TournamentSelection Class GeneticSharp.Domain.Selections Namespace

TournamentSelection PerformSelectChromosomesGene Method

Performs the selection of chromosomes from the generation specified.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

protected override IList<IChromosome> PerformSelectChromosomes(
    int number,
    Generation generation
)
```

Parameters

number

Type: System Int32

The number of chromosomes to select.

generation

Type: GeneticSharp.Domain.Populations Generation

The generation where the selection will be made.

Return Value

Type: List IChromosome
The selected chromosomes.

Exceptions

Exception	Condition
System NotImplementedException	

See Also

TournamentSelection Class

TournamentSelection Members

GeneticSharp.Domain.Selections Namespace

TournamentSelection Properties

GeneticSharp

The TournamentSelection type exposes the following members.

Properties

Name	Description
Allow Winner Compete Next Tournament	Gets or sets if allow any winner in a tournament to participate in the next tournament.
	Remarks
	In other words, if you want to allow a chromosome be selected more the one time.
Size	Gets or sets the size of the tournament.
	Remarks
	In other words, the number of chromosomes that will participate of each tournament until all need chromosomes be selected.

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See Also

TournamentSelection Class GeneticSharp.Domain.Selections Namespace

TournamentSelection AllowWinnerCompeteNextTour Property

Gets or sets if allow any winner in a tournament to participate in the next tournament.

Remarks

In other words, if you want to allow a chromosome be selected more the one time.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Property Value

Type: Boolean

See Also

TournamentSelection Class

TournamentSelection Members

GeneticSharp.Domain.Selections Namespace

TournamentSelection Size Property

GeneticSharp

Gets or sets the size of the tournament.

Remarks

In other words, the number of chromosomes that will participate of each tournament until all need chromosomes be selected.

Namespace: GeneticSharp.Domain.Selections

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public int Size { get; set; }

Property Value
Type: Int32

See Also

TournamentSelection Class
TournamentSelection Members
GeneticSharp.Domain.Selections Namespace
```

GeneticSharp.Domain.Terminations Namespace

Genetic Sharp

[Missing <summary> documentation for "N:GeneticSharp.Domain.Terminations"]

Classes

	Class	Description
4 \$	AndTermination	An termination where you can combine others ITerminations with a AND logical operator.
*	FitnessStagnationTermination	Fitness Stagnation Termination.
		Remarks
		The genetic algorithm will be terminate when the best chromosome's fitness has no change in the last generations specified.
4 \$	FitnessThresholdTermination	Fitness Threshold Termination
		Remarks
		The genetic algorithm will be terminate when the best chromosome reach the expected fitness.
4 \$	GenerationNumberTermination	Generation number termination.
		Remarks
		The genetic algorithm will be terminate when reach the expected generation number.
4 \$	LogicalOperatorTerminationBase	A base class for logical operator terminations.
4 \$	OrTermination	An termination where you can combine others ITerminations with a OR logical operator.
4 \$	TerminationBase	Base class for ITerminations's implementations.
4 3	TerminationService	Termination service.
2 \$	TimeEvolvingTermination	Time Evolving Termination.
		Remarks
		The genetic algorithm will be terminate when the evolving exceed the max time specified.

Interfaces

	Interface	Description
o-O	ITermination	Defines the interface for a termination condition.

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ giacomelli@gmail.com.}}$

AndTermination Class

GeneticSharp

An termination where you can combine others ITerminations with a AND logical operator.

Inheritance Hierarchy



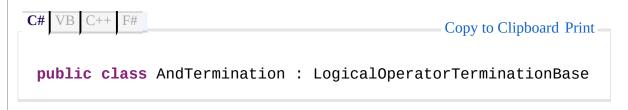
System Object GeneticSharp.Domain.Terminations LogicalOperatorTerminatio GeneticSharp.Domain.Terminations AndTermination

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

AndTermination Members

GeneticSharp.Domain.Terminations Namespace

The AndTermination type exposes the following members.

Constructors

	Name	Description	
≡	AndTermination	Initializes a new instance of the AndTermination class.	

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Methods

	Name	Description	
≡	AddTermination	Adds the termination. (Inherited from LogicalOperatorTerminationBase.)	
Object.		Determines whether the specified Object is equal to the current Object . (Inherited from Object .)	
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	₽© GetType	Gets the type of the current instance. (Inherited from Object.)	
≡♦	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from LogicalOperatorTerminationBase.)	
**	™ MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
<u></u>	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides LogicalOperatorTerminationBase PerformHasReached(IGeneticAlgorithm).	
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from LogicalOperatorTerminationBase.)	

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Properties

Name	Description
Terminations	Gets or sets the terminations. (Inherited from LogicalOperatorTerminationBase.)

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See Also

AndTermination Class

GeneticSharp.Domain.Terminations Namespace

AndTermination Constructor

GeneticSharp

Initializes a new instance of the AndTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public AndTermination(
    params ITermination[] terminations
)
```

Parameters

terminations

Type: GeneticSharp.Domain.Terminations ITermination

The terminations.

See Also

AndTermination Class

AndTermination Members

GeneticSharp.Domain.Terminations Namespace

AndTermination Methods

Genetic Sharp

The AndTermination type exposes the following members.

Methods

	Name	Description	
=	AddTermination	Adds the termination. (Inherited from LogicalOperatorTerminationBase.)	
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)	
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)	
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)	
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)	
=	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from LogicalOperatorTerminationBase.)	
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)	
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides LogicalOperatorTerminationBase PerformHasReached(IGeneticAlgorithm).	
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from LogicalOperatorTerminationBase.)	

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See Also

AndTermination Class

GeneticSharp.Domain.Terminations Namespace

AndTermination PerformHasReached Method

GeneticSharp

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

See Also

AndTermination Class

AndTermination Members

GeneticSharp.Domain.Terminations Namespace

AndTermination Properties

Genetic Sharp

The AndTermination type exposes the following members.

Properties

Name	Description	
	Gets or sets the terminations. (Inherited from LogicalOperatorTerminationBase.)	

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See Also

AndTermination Class GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Class

GeneticSharp

Fitness Stagnation Termination.

Remarks

The genetic algorithm will be terminate when the best chromosome's fitness has no change in the last generations specified.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations TerminationBase

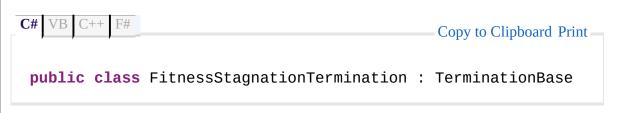
 $Genetic Sharp. Domain. Terminations\ Fitness Stagnation Termination$

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessStagnationTermination Members GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Members GeneticSharp

The FitnessStagnationTermination type exposes the following members.

Constructors

		Name	Description
-	•	FitnessStagnationTermination	Initializes a new instance of the FitnessStagnationTermination class.
-	•	FitnessStagnationTermination(Int32)	Initializes a new instance of the FitnessStagnationTermination class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
9	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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Properties

	Name	Description	
	Expected Stagnant Generations Number	Gets or sets the expected stagnant generations number to reach the termination.	

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See Also

FitnessStagnationTermination Class GeneticSharp.Domain.Terminations Namespace

$Fitness Stagnation Termination\ Constructor {\tt Genetic Sharp}$

Overload List

	Name	Description
≡	FitnessStagnationTermination	Initializes a new instance of the FitnessStagnationTermination class.
≡	FitnessStagnationTermination(Int32)	Initializes a new instance of the FitnessStagnationTermination class.

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See Also

FitnessStagnationTermination Class
FitnessStagnationTermination Members
GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Constructor GeneticSharp

Initializes a new instance of the FitnessStagnationTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Remarks

The ExpectedStagnantGenerationsNumber default value is 100.

See Also

FitnessStagnationTermination Class

FitnessStagnationTermination Members

FitnessStagnationTermination Overload

GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Constructor GeneticSharp (Int32)

Initializes a new instance of the FitnessStagnationTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public FitnessStagnationTermination(
    int expectedStagnantGenerationsNumber
)
```

Parameters

expected Stagnant Generations Number

Type: System Int32

The expected stagnant generations number to reach the termination.

See Also

FitnessStagnationTermination Class

 $Fitness Stagnation Termination\ Members$

FitnessStagnationTermination Overload

GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Methods GeneticSharp

The FitnessStagnationTermination type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified **Object is equal to the current **Object . (Inherited from **Object .)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
ē û	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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See Also

FitnessStagnationTermination Class GeneticSharp.Domain.Terminations Namespace

$\label{eq:FitnessStagnationTerminationPerformHasReached} \textbf{Method}$

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: Boolean

True if termination has been reached, otherwise false.

See Also

FitnessStagnationTermination Class

 $Fitness Stagnation Termination\ Members$

GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination Properties GeneticSharp

The FitnessStagnationTermination type exposes the following members.

Properties

	Name	Description
		Gets or sets the expected stagnant generations number to reach the termination.

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See Also

FitnessStagnationTermination Class GeneticSharp.Domain.Terminations Namespace

FitnessStagnationTermination ExpectedStagnantGeneroperty

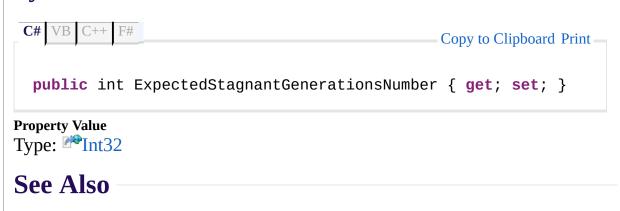
Gets or sets the expected stagnant generations number to reach the termination.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



FitnessStagnationTermination Class
FitnessStagnationTermination Members
GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Class

GeneticSharp

Fitness Threshold Termination

Remarks

The genetic algorithm will be terminate when the best chromosome reach the expected fitness.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations TerminationBase

 $Genetic Sharp. Domain. Terminations\ Fitness Threshold Termination$

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

FitnessThresholdTermination Members GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Members

GeneticSharp

The FitnessThresholdTermination type exposes the following members.

Constructors

		Name	Description
	•	FitnessThresholdTermination	Initializes a new instance of the FitnessThresholdTermination class.
=			Initializes a new instance of the FitnessThresholdTermination class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
9	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
**	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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Properties

Name Description		Description
	ExpectedFitness	Gets or sets the expected fitness to consider that termination has been reached.

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See Also

FitnessThresholdTermination Class GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Constructor GeneticSharp

Overload List

	Name	Description
≡	FitnessThresholdTermination	Initializes a new instance of the FitnessThresholdTermination class.
≡	FitnessThresholdTermination(Double)	Initializes a new instance of the FitnessThresholdTermination class.

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See Also

FitnessThresholdTermination Class
FitnessThresholdTermination Members
GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Constructor GeneticSharp

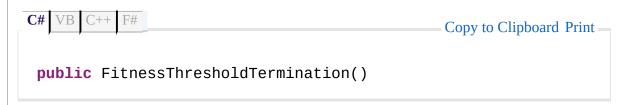
Initializes a new instance of the FitnessThresholdTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Remarks

The default expected fitness is 1.00.

See Also

FitnessThresholdTermination Class

FitnessThresholdTermination Members

FitnessThresholdTermination Overload

GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Constructor (Double) GeneticSharp

Initializes a new instance of the FitnessThresholdTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

expectedFitness

Type: System Double

Expected fitness.

See Also

FitnessThresholdTermination Class

FitnessThresholdTermination Members

FitnessThresholdTermination Overload

GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Methods

Genetic Sharp

The FitnessThresholdTermination type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified POD object is equal to the current OD object. (Inherited from POD object.)
	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
=	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
Ģ	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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See Also

FitnessThresholdTermination Class GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination PerformHasReached Ger Method

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: Boolean

True if termination has been reached, otherwise false.

See Also

FitnessThresholdTermination Class

FitnessThresholdTermination Members

GeneticSharp.Domain.Terminations Namespace

FitnessThresholdTermination Properties GeneticSharp

The FitnessThresholdTermination type exposes the following members.

Properties

Name Description		Description
	ExpectedFitness	Gets or sets the expected fitness to consider that termination has been reached.

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See Also

FitnessThresholdTermination Class GeneticSharp.Domain.Terminations Namespace

$\begin{tabular}{ll} Fitness Threshold Termination & Expected Fitness\\ Property \end{tabular}$

Gets or sets the expected fitness to consider that termination has been reached.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

C# VB C++ F# Copy to Clipboard Print public double ExpectedFitness { get; set; } Property Value Type: Double See Also FitnessThresholdTermination Class FitnessThresholdTermination Members GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Class

GeneticSharp

Generation number termination.

Remarks

The genetic algorithm will be terminate when reach the expected generation number.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations TerminationBase

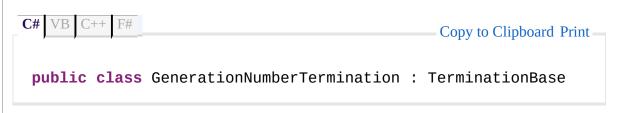
 $Genetic Sharp. Domain. Termination \\ Generation Number Termination$

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

GenerationNumberTermination Members GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Members GeneticSharp

The GenerationNumberTermination type exposes the following members.

Constructors

		Name	Description
-	•	GenerationNumberTermination	Initializes a new instance of the GenerationNumberTermination class.
=	•	GenerationNumberTermination(Int32)	Initializes a new instance of the GenerationNumberTermination class.

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Methods

	Name	Description
=0	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
op		Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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Properties

	Name	Description
*	ExpectedGenerationNumber	Gets or sets the expected generation number to consider that termination has been reached.

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See Also

GenerationNumberTermination Class GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Constructor

GeneticSharp

Overload List

	Name	Description
#	GenerationNumberTermination	Initializes a new instance of the GenerationNumberTermination class.
≡	GenerationNumberTermination(Int32)	Initializes a new instance of the GenerationNumberTermination class.

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See Also

GenerationNumberTermination Class GenerationNumberTermination Members GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Constructor

GeneticSharp

Initializes a new instance of the GenerationNumberTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
<pre>public GenerationNumberTermination()</pre>	

Remarks

The defaul expected generation number is 100.

See Also

GenerationNumberTermination Class

GenerationNumberTermination Members

GenerationNumberTermination Overload

GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Constructor (Int32)

GeneticSharp

Initializes a new instance of the GenerationNumberTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public GenerationNumberTermination(
    int expectedGenerationNumber
)
```

Parameters

expectedGenerationNumber

Type: System Int32

The generation number to consider the termination has been reached.

See Also

GenerationNumberTermination Class

GenerationNumberTermination Members

GenerationNumberTermination Overload

GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination Methods GeneticSharp

The GenerationNumberTermination type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
· · · · · · · · · · · · · · · · · · ·	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡ \	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡ \	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
≅	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
9	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
Ģ	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
=0	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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See Also

GenerationNumberTermination Class GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination PerformHasReached Method

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: Boolean

True if termination has been reached, otherwise false.

See Also

GenerationNumberTermination Class

GenerationNumberTermination Members

GeneticSharp.Domain.Terminations Namespace

${\bf Generation Number Termination\ Properties\ Genetic Sharp}$

The GenerationNumberTermination type exposes the following members.

Properties

	Name	Description
	ExpectedGenerationNumber	Gets or sets the expected generation number to consider that termination has been reached.

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See Also

GenerationNumberTermination Class GeneticSharp.Domain.Terminations Namespace

GenerationNumberTermination ExpectedGeneration Property

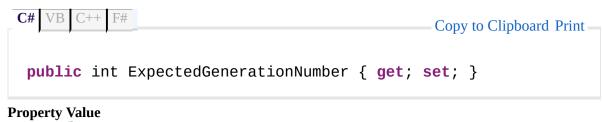
Gets or sets the expected generation number to consider that termination has been reached.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Type: MInt32

The generation number.

See Also

GenerationNumberTermination Class

GenerationNumberTermination Members

GeneticSharp.Domain.Terminations Namespace

ITermination Interface

GeneticSharp

Defines the interface for a termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Remarks



See Also

ITermination Members

GeneticSharp.Domain.Terminations Namespace

ITermination Members

Genetic Sharp

The ITermination type exposes the following members.

Methods

	Name	Description
=0	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.

Back to Top

See Also

ITermination Interface

GeneticSharp.Domain.Terminations Namespace

ITermination Methods

Genetic Sharp

The ITermination type exposes the following members.

Methods

	Name	Description
=₩	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.

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See Also

ITermination Interface

GeneticSharp.Domain.Terminations Namespace

ITermination HasReached Method

GeneticSharp

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

See Also

ITermination Interface

ITermination Members

 $Genetic Sharp. Domain. Terminations\ Name space$

LogicalOperatorTerminationBase Class GeneticSharp

A base class for logical operator terminations.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations LogicalOperatorTermin

GeneticSharp.Domain.Terminations AndTermination GeneticSharp.Domain.Terminations OrTermination

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

C# VB C++ F#	Copy to Clipboard Print
public abstract	class LogicalOperatorTerminationBase : ITermina

See Also

LogicalOperatorTerminationBase Members GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Members

Genetic Sharp

The LogicalOperatorTerminationBase type exposes the following members.

Constructors

	Name	Description
ē	LogicalOperatorTerminationBase	Initializes a new instance of the LogicalOperatorTerminationBase class.
ē	LogicalOperatorTerminationBase(Int32)	Initializes a new instance of the LogicalOperatorTerminationBase class.
ÿ 🗣	LogicalOperatorTerminationBase(ITermination)	Initializes a new instance of the LogicalOperatorTerminationBase class.

Back to Top

Methods

	Name	Description
≡	AddTermination	Adds the termination.
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
₹	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
=	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
**	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase.

(Overrides Object ToString .)

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Properties

	Name	Description
3	Terminations	Gets or sets the terminations.

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See Also

LogicalOperatorTerminationBase Class GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Constructor

Genetic Sharp

Overload List

	Name	Description
**	LogicalOperatorTerminationBase	Initializes a new instance of the LogicalOperatorTerminationBase class.
9	LogicalOperatorTerminationBase(Int32)	Initializes a new instance of the LogicalOperatorTerminationBase class.
<u></u>	LogicalOperatorTerminationBase(ITermination)	Initializes a new instance of the LogicalOperatorTerminationBase class.

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See Also

LogicalOperatorTerminationBase Class LogicalOperatorTerminationBase Members GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Constructor

GeneticSharp

Initializes a new instance of the Logical Operator Termination Base class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

LogicalOperatorTerminationBase Class

LogicalOperatorTerminationBase Members

LogicalOperatorTerminationBase Overload

GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Constructor (Int32)

GeneticSharp

Initializes a new instance of the Logical Operator Termination Base class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

protected LogicalOperatorTerminationBase(
    int minOperands
)
```

Parameters

minOperands

Type: System Int32

[Missing <param name="minOperands"/> documentation for "M:GeneticSharp.Domain.Terminations.LogicalOperatorTerminationBase.#ctor(System.Int32)"]

See Also

LogicalOperatorTerminationBase Class

LogicalOperatorTerminationBase Members

LogicalOperatorTerminationBase Overload

GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Constructor (ITermination)

GeneticSharp

Initializes a new instance of the Logical Operator Termination Base class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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protected LogicalOperatorTerminationBase(
    params ITermination[] terminations
)
```

Parameters

terminations

Type: GeneticSharp.Domain.Terminations ITermination

The terminations.

See Also

LogicalOperatorTerminationBase Class

LogicalOperatorTerminationBase Members

LogicalOperatorTerminationBase Overload

GeneticSharp.Domain.Terminations Namespace

$Logical Operator Termination Base\ Methods {\tt Genetic Sharp}$

The LogicalOperatorTerminationBase type exposes the following members.

Methods

	Name	Description
≡	AddTermination	Adds the termination.
=	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
*	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≓	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Overrides Object ToString .)

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See Also

LogicalOperatorTerminationBase Class GeneticSharp.Domain.Terminations Namespace

$\label{logicalOperatorTerminationBase} \begin{tabular}{ll} \textbf{LogicalOperatorTerminationBase} & \textbf{AddTermination}_{Gel} \\ \textbf{Method} \\ \end{tabular}$

Adds the termination.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

termination

Type: GeneticSharp.Domain.Terminations ITermination

The termination.

See Also

LogicalOperatorTerminationBase Class

 $Logical Operator Termination Base\ Members$

GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase HasReachedGeneticSl **Method**

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: Boolean

True if termination has been reached, otherwise false.

Implements

ITermination HasReached(IGeneticAlgorithm)

Exceptions

Exception	Condition
System NotImplementedException	

See Also

LogicalOperatorTerminationBase Class

LogicalOperatorTerminationBase Members

GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase PerformHasReacho Method

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: Boolean

True if termination has been reached, otherwise false.

See Also

LogicalOperatorTerminationBase Class

 $Logical Operator Termination Base\ Members$

GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase ToStringGeneticSharp

Returns a String that represents the current LogicalOperatorTerminationBase.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: String

A String that represents the current Logical Operator Termination Base.

See Also

LogicalOperatorTerminationBase Class LogicalOperatorTerminationBase Members GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase Properties

GeneticSharp

The LogicalOperatorTerminationBase type exposes the following members.

Properties

	Name	Description
	Terminations	Gets or sets the terminations.

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See Also

LogicalOperatorTerminationBase Class GeneticSharp.Domain.Terminations Namespace

LogicalOperatorTerminationBase TerminationsGenetic Property

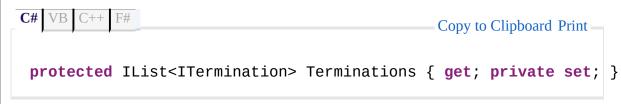
Gets or sets the terminations.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Property Value

Type: FIList ITermination

See Also

LogicalOperatorTerminationBase Class

LogicalOperatorTerminationBase Members

GeneticSharp.Domain.Terminations Namespace

OrTermination Class

GeneticSharp

An termination where you can combine others ITerminations with a OR logical operator.

Inheritance Hierarchy



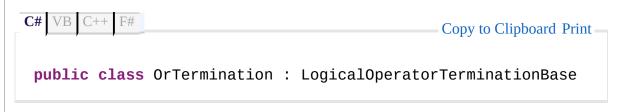
System Object GeneticSharp.Domain.Terminations LogicalOperatorTerminatio GeneticSharp.Domain.Terminations OrTermination

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

OrTermination Members

GeneticSharp.Domain.Terminations Namespace

The OrTermination type exposes the following members.

Constructors

	Name	Description	
≡	OrTermination	Initializes a new instance of the OrTermination class.	

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Methods

	Name	Description
=	AddTermination	Adds the termination. (Inherited from LogicalOperatorTerminationBase.)
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
9	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=•	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	₽© GetType	Gets the type of the current instance. (Inherited from Object.)
=	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from LogicalOperatorTerminationBase.)
<u> </u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides LogicalOperatorTerminationBase PerformHasReached(IGeneticAlgorithm).
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from LogicalOperatorTerminationBase.)

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Properties

Name	Description
Terminations	Gets or sets the terminations. (Inherited from LogicalOperatorTerminationBase.)

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See Also

OrTermination Class

GeneticSharp.Domain.Terminations Namespace

OrTermination Constructor

GeneticSharp

Initializes a new instance of the OrTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

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public OrTermination(
    params ITermination[] terminations
)
```

Parameters

terminations

Type: GeneticSharp.Domain.Terminations ITermination

The terminations.

See Also

OrTermination Class

OrTermination Members

GeneticSharp.Domain.Terminations Namespace

The OrTermination type exposes the following members.

Methods

	Name	Description
≡	AddTermination	Adds the termination. (Inherited from LogicalOperatorTerminationBase.)
≡	Equals	Determines whether the specified **Object is equal to the current **Object . (Inherited from **Object .)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
=	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from LogicalOperatorTerminationBase.)
**	№ MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
9	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides LogicalOperatorTerminationBase PerformHasReached(IGeneticAlgorithm).
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from LogicalOperatorTerminationBase.)

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See Also

OrTermination Class

GeneticSharp.Domain.Terminations Namespace

OrTermination PerformHasReached Method

GeneticSharp

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

See Also

OrTermination Class

OrTermination Members

GeneticSharp.Domain.Terminations Namespace

OrTermination Properties

Genetic Sharp

The OrTermination type exposes the following members.

Properties

Name	Description
	Gets or sets the terminations. (Inherited from LogicalOperatorTerminationBase.)

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See Also

OrTermination Class

GeneticSharp.Domain.Terminations Namespace

TerminationBase Class

GeneticSharp

Base class for ITerminations's implementations.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations TerminationBase

GeneticSharp.Domain.Terminations FitnessStagnationTermination

 $Genetic Sharp. Domain. Terminations\ Fitness Threshold Termination$

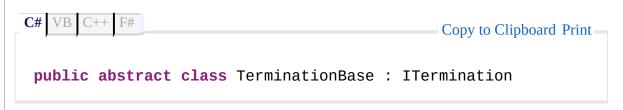
GeneticSharp.Domain.Terminations GenerationNumberTermination GeneticSharp.Domain.Terminations TimeEvolvingTermination

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TerminationBase Members

GeneticSharp.Domain.Terminations Namespace

The TerminationBase type exposes the following members.

Constructors

	Name	Description
<u></u>	TerminationBase	Initializes a new instance of the TerminationBase class

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
-	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
=	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Overrides Object ToString .)

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See Also

TerminationBase Class

GeneticSharp.Domain.Terminations Namespace

TerminationBase Constructor

GeneticSharp

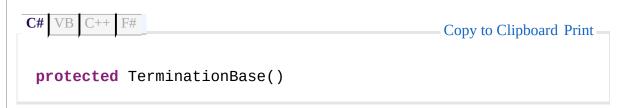
Initializes a new instance of the TerminationBase class

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TerminationBase Class

TerminationBase Members

GeneticSharp.Domain.Terminations Namespace

TerminationBase Methods

Genetic Sharp

The TerminationBase type exposes the following members.

Methods

	Name	Description
≟	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from bject.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from bject.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
ē	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
<u></u>	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition.
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Overrides Object ToString .)

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See Also

TerminationBase Class

GeneticSharp.Domain.Terminations Namespace

TerminationBase HasReached Method

GeneticSharp

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

Implements

ITermination HasReached(IGeneticAlgorithm)

See Also

TerminationBase Class

TerminationBase Members

GeneticSharp.Domain.Terminations Namespace

TerminationBase PerformHasReached Method

GeneticSharp

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

See Also

TerminationBase Class

TerminationBase Members

GeneticSharp.Domain.Terminations Namespace

TerminationBase ToString Method

GeneticSharp

Returns a String that represents the current LogicalOperatorTerminationBase.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: String

A String that represents the current LogicalOperatorTerminationBase.

See Also

TerminationBase Class

TerminationBase Members

GeneticSharp.Domain.Terminations Namespace

TerminationService Class

GeneticSharp

Termination service.

Inheritance Hierarchy



System Object GeneticSharp.Domain.Terminations TerminationService

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TerminationService Members

GeneticSharp.Domain.Terminations Namespace

TerminationService Members

Genetic Sharp

The TerminationService type exposes the following members.

Methods

	Name	Description
∉ \$ S	CreateTerminationByName	Creates the ITermination's implementation with the specified name.
=\$S	GetTerminationNames	Gets the available termination names.
=♦S	GetTerminationTypeByName	Gets the termination type by the name.
=♦S	GetTerminationTypes	Gets available termination types.

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See Also

TerminationService Class

GeneticSharp.Domain.Terminations Namespace

TerminationService Methods

Genetic Sharp

The TerminationService type exposes the following members.

Methods

	Name	Description
∉ ≬S	CreateTerminationByName	Creates the ITermination's implementation with the specified name.
=\$S	GetTerminationNames	Gets the available termination names.
=♦S	GetTerminationTypeByName	Gets the termination type by the name.
= \$ S	GetTerminationTypes	Gets available termination types.

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See Also

TerminationService Class GeneticSharp.Domain.Terminations Namespace

TerminationService CreateTerminationByNameGenetic!

Creates the ITermination's implementation with the specified name.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public static ITermination CreateTerminationByName(
    string name,
    params Object[] constructorArgs
)
```

Parameters

name

Type: System String

The ITermination name.

constructorArgs

Type: System Object Constructor arguments.

Return Value

Type: ITermination

The ITermination's implementation instance.

See Also

TerminationService Class

TerminationService Members

GeneticSharp.Domain.Terminations Namespace

TerminationService GetTerminationNamesGeneticSharp

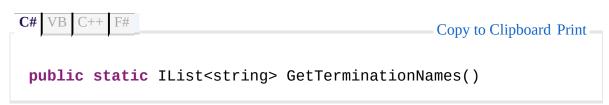
Gets the available termination names.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: **IList **String The termination names.

See Also

TerminationService Class

TerminationService Members

GeneticSharp.Domain.Terminations Namespace

TerminationService GetTerminationTypeByNameGene Method

Gets the termination type by the name.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

name

Type: System String
The name of termination.

Return Value

Type: Type

The termination type.

See Also

TerminationService Class

TerminationService Members

GeneticSharp.Domain.Terminations Namespace

TerminationService GetTerminationTypes Method

GeneticSharp

Gets available termination types.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Type

All available termination types.

See Also

TerminationService Class

TerminationService Members

GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Class

GeneticSharp

Time Evolving Termination.

Remarks

The genetic algorithm will be terminate when the evolving exceed the max time specified.

Inheritance Hierarchy

System Object GeneticSharp.Domain.Terminations TerminationBase

GeneticSharp.Domain.Terminations TimeEvolvingTermination

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



See Also

TimeEvolvingTermination Members
GeneticSharp.Domain.Terminations Namespace

The TimeEvolvingTermination type exposes the following members.

Constructors

		Name	Description
	•	TimeEvolvingTermination	Initializes a new instance of the TimeEvolvingTermination class.
-	•	TimeEvolvingTermination(TimeSpan)	Initializes a new instance of the TimeEvolvingTermination class.

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Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
=0	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
≡	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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Properties

	Name	Description
	MaxTime	Gets or sets the execution max time.

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See Also

TimeEvolvingTermination Class GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Constructor

GeneticSharp

Overload List

	Name	Description
≡	TimeEvolvingTermination	Initializes a new instance of the TimeEvolvingTermination class.
≡	TimeEvolvingTermination(TimeSpan)	Initializes a new instance of the TimeEvolvingTermination class.

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See Also

TimeEvolvingTermination Class
TimeEvolvingTermination Members
GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Constructor GeneticSharp

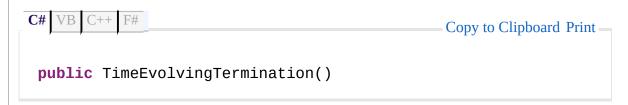
Initializes a new instance of the TimeEvolvingTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Remarks

The default MaxTime is 1 minute.

See Also

TimeEvolvingTermination Class

TimeEvolvingTermination Members

TimeEvolvingTermination Overload

GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Constructor (TimeSpan)

GeneticSharp

Initializes a new instance of the TimeEvolvingTermination class.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public TimeEvolvingTermination(
    TimeSpan maxTime
)
```

Parameters

maxTime

Type: System TimeSpan

The execution time to consider the termination has been reached.

See Also

TimeEvolvingTermination Class

TimeEvolvingTermination Members

TimeEvolvingTermination Overload

GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Methods

Genetic Sharp

The TimeEvolvingTermination type exposes the following members.

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u> </u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
≡	HasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Inherited from TerminationBase.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
₹	PerformHasReached	Determines whether the specified geneticAlgorithm reached the termination condition. (Overrides TerminationBase PerformHasReached(IGeneticAlgorithm).)
⊕	ToString	Returns a String that represents the current LogicalOperatorTerminationBase. (Inherited from TerminationBase.)

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See Also

TimeEvolvingTermination Class GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination PerformHasReachedGenetics

Determines whether the specified geneticAlgorithm reached the termination condition.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

Parameters

geneticAlgorithm

Type: GeneticSharp.Domain IGeneticAlgorithm

The genetic algorithm.

Return Value

Type: **Boolean**

True if termination has been reached, otherwise false.

See Also

TimeEvolvingTermination Class

TimeEvolvingTermination Members

GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination Properties

Genetic Sharp

The TimeEvolvingTermination type exposes the following members.

Properties

Name	Description
MaxTime	Gets or sets the execution max time.

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See Also

TimeEvolvingTermination Class GeneticSharp.Domain.Terminations Namespace

TimeEvolvingTermination MaxTime Property

GeneticSharp

Gets or sets the execution max time.

Namespace: GeneticSharp.Domain.Terminations

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public TimeSpan MaxTime { get; set; }
```

Property Value

Type: TimeSpan
The max time.

See Also

TimeEvolvingTermination Class

TimeEvolvingTermination Members

GeneticSharp.Domain.Terminations Namespace

 ${\color{red} \textbf{Send Feedback} \ on \ this \ topic \ to \ giacomelli@gmail.com.}}$

SharpNeatLib.Maths Namespace

Genetic Sharp

[Missing <summary> documentation for "N:SharpNeatLib.Maths"]

Classes

	Class	Description
43	FastRandom	A fast random number generator for .NET Colin Green, January 2005 September 4th 2005 Added NextBytesUnsafe() - commented out by default. Fixed bug in Reinitialise() - y,z and w variables were not being reset. Key points: 1) Based on a simple and fast xor-shift pseudo random number generator (RNG) specified in: Marsaglia, George. (2003). Xorshift RNGs. http://www.jstatsoft.org/v08/i14/xorshift.pdf This particular implementation of xorshift has a period of 2^128-1. See the above paper to see how this can be easily extened if you need a longer period. At the time of writing I could find no information on the period of System.Random for comparison. 2) Faster than System.Random. Up to 8x faster, depending on which methods are called. 3) Direct replacement for System.Random. This class implements all of the methods that System.Random does plus some additional methods. The like named methods are functionally equivalent. 4) Allows fast re-initialisation with a seed, unlike System.Random which accepts a seed at construction time which then executes a relatively expensive initialisation routine. This provides a vast speed improvement if you need to reset the pseudo-random number sequence many times, e.g. if you want to re-generate the same sequence many times. An alternative might be to cache random numbers in an array, but that approach is limited by memory capacity and the fact that you may also want a large number of different sequences cached. Each sequence can each be represented by a single seed value (int) when using FastRandom. Notes. A further performance improvement can be obtained by declaring local variables as static, thus avoiding re-allocation of variables on each call. However care should be taken if multiple instances of FastRandom are in use or if being used in a multi-threaded environment.

A fast random number generator for .NET Colin Green, January 2005 September 4th 2005 Added NextBytesUnsafe() - commented out by default. Fixed bug in Reinitialise() - y,z and w variables were not being reset. Key points: 1) Based on a simple and fast xor-shift pseudo random number generator (RNG) specified in: Marsaglia, George. (2003). Xorshift RNGs. http://www.jstatsoft.org/v08/i14/xorshift.pdf This particular implementation of xorshift has a period of 2\128-1. See the above paper to see how this can be easily extened if you need a longer period. At the time of writing I could find no information on the period of System.Random for comparison. 2) Faster than System.Random. Up to 8x faster, depending on which methods are called. 3) Direct replacement for System.Random. This class implements all of the methods that System.Random does plus some additional methods. The like named methods are functionally equivalent. 4) Allows fast reinitialisation with a seed, unlike System.Random which accepts a seed at construction time which then executes a relatively expensive initialisation routine. This provides a vast speed improvement if you need to reset the pseudo-random number sequence many times, e.g. if you want to re-generate the same sequence many times. An alternative might be to cache random numbers in an array, but that approach is limited by memory capacity and the fact that you may also want a large number of different sequences cached. Each sequence can each be represented by a single seed value (int) when using FastRandom. Notes. A further performance improvement can be obtained by declaring local variables as static, thus avoiding re-allocation of variables on each call. However care should be taken if multiple instances of FastRandom are in use or if being used in a multi-threaded environment.

Inheritance Hierarchy

System Object SharpNeatLib.Maths FastRandom

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



public class FastRandom

See Also

FastRandom Members SharpNeatLib.Maths Namespace

FastRandom Members

The FastRandom type exposes the following members.

Constructors

	Name	Description
=	FastRandom	Initialises a new instance using time dependent seed.
=	FastRandom(Int32)	Initialises a new instance using an int value as seed. This constructor signature is provided to maintain compatibility with System.Random

Back to Top

Methods

	Name	Description
≡	Equals	Determines whether the specified Object is equal to the current Object. (Inherited from Object.)
<u></u>	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType	Gets the type of the current instance. (Inherited from Object.)
<u></u>	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
=0	Next	Generates a random int over the range 0 to int.MaxValue-1. MaxValue is not generated in order to remain functionally equivalent to System.Random.Next(). This does slightly eat into some of the performance gain over System.Random, but not much. For better performance see: Call NextInt() for an int over the range 0 to int.MaxValue. Call NextUInt() and cast the result to an int to generate an int over the full Int32 value range including negative values.
≡	Next(Int32)	Generates a random int over the range 0 to upperBound-1, and not including upperBound.
≡	Next(Int32, Int32)	Generates a random int over the range lowerBound to upperBound-1, and not including upperBound. upperBound must be >= lowerBound. lowerBound may be negative.

=•	NextBool	Generates a single random bit. This method's performance is improved by generating 32 bits in one operation and storing them ready for future calls.
≡	NextBytes	Fills the provided byte array with random bytes. This method is functionally equivalent to System.Random.NextBytes().
=•	NextDouble	Generates a random double. Values returned are from 0.0 up to but not including 1.0.
=₩	NextInt	Generates a random int over the range 0 to int.MaxValue, inclusive. This method differs from Next() only in that the range is 0 to int.MaxValue and not 0 to int.MaxValue-1. The slight difference in range means this method is slightly faster than Next() but is not functionally equivalent to System.Random.Next().
=₩	NextUInt	Generates a uint. Values returned are over the full range of a uint, uint.MinValue to uint.MaxValue, inclusive. This is the fastest method for generating a single random number because the underlying random number generator algorithm generates 32 random bits that can be cast directly to a uint.
≡	Reinitialise	Reinitialises using an int value as a seed.
≡	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

FastRandom Class SharpNeatLib.Maths Namespace

FastRandom Constructor

GeneticSharp

Overload List

		Name	Description
=	>	FastRandom	Initialises a new instance using time dependent seed.
=	•	FastRandom(Int32)	Initialises a new instance using an int value as seed. This constructor signature is provided to maintain compatibility with System.Random

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See Also

FastRandom Class

FastRandom Members

SharpNeatLib.Maths Namespace

FastRandom Constructor

GeneticSharp

Initialises a new instance using time dependent seed.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print public FastRandom()
```

See Also

FastRandom Class

FastRandom Members

FastRandom Overload

SharpNeatLib.Maths Namespace

FastRandom Constructor (Int32)

GeneticSharp

Initialises a new instance using an int value as seed. This constructor signature is provided to maintain compatibility with System.Random

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F# Copy to Clipboard Print

public FastRandom(
    int seed
)
```

Parameters

seed

Type: System Int32

[Missing <param name="seed"/> documentation for "M:SharpNeatLib.Maths.FastRandom.#ctor(System.Int32)"]

See Also

FastRandom Class

FastRandom Members

FastRandom Overload

SharpNeatLib.Maths Namespace

FastRandom Methods

The FastRandom type exposes the following members.

Methods

	Name	Description
≟	Equals	Determines whether the specified PODject is equal to the current ODject . (Inherited from PODject .)
Ģ.	Finalize	Allows an object to try to free resources and perform other cleanup operations before it is reclaimed by garbage collection. (Inherited from Object.)
≡	GetHashCode	Serves as a hash function for a particular type. (Inherited from Object.)
≡	GetType GetType	Gets the type of the current instance. (Inherited from Object.)
Ģ ♥	MemberwiseClone	Creates a shallow copy of the current Object. (Inherited from Object.)
Ξ₩	Next	Generates a random int over the range 0 to int.MaxValue-1. MaxValue is not generated in order to remain functionally equivalent to System.Random.Next(). This does slightly eat into some of the performance gain over System.Random, but not much. For better performance see: Call NextInt() for an int over the range 0 to int.MaxValue. Call NextUInt() and cast the result to an int to generate an int over the full Int32 value range including negative values.
≡	Next(Int32)	Generates a random int over the range 0 to upperBound-1, and not including upperBound.
≡	Next(Int32, Int32)	Generates a random int over the range lowerBound to upperBound-1, and not including upperBound. upperBound must be >= lowerBound. lowerBound may be negative.
≡	NextBool	Generates a single random bit. This method's performance is improved by generating 32 bits in one operation and storing them ready for future calls.
≡	NextBytes	Fills the provided byte array with random bytes. This method is functionally equivalent to System.Random.NextBytes().
≡	NextDouble	Generates a random double. Values returned are from 0.0 up to but not including 1.0.
≡	NextInt	Generates a random int over the range 0 to int.MaxValue, inclusive. This method differs from Next() only in that the range is 0 to

		int.MaxValue and not 0 to int.MaxValue-1. The slight difference in range means this method is slightly faster than Next() but is not functionally equivalent to System.Random.Next().
=	NextUInt	Generates a uint. Values returned are over the full range of a uint, uint.MinValue to uint.MaxValue, inclusive. This is the fastest method for generating a single random number because the underlying random number generator algorithm generates 32 random bits that can be cast directly to a uint.
=0	Reinitialise	Reinitialises using an int value as a seed.
=0	ToString	Returns a string that represents the current object. (Inherited from Object.)

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See Also

FastRandom Class SharpNeatLib.Maths Namespace

Overload List

	Name	Description
€0	Next	Generates a random int over the range 0 to int.MaxValue-1. MaxValue is not generated in order to remain functionally equivalent to System.Random.Next(). This does slightly eat into some of the performance gain over System.Random, but not much. For better performance see: Call NextInt() for an int over the range 0 to int.MaxValue. Call NextUInt() and cast the result to an int to generate an int over the full Int32 value range including negative values.
≡	Next(Int32)	Generates a random int over the range 0 to upperBound-1, and not including upperBound.
≡	Next(Int32, Int32)	Generates a random int over the range lowerBound to upperBound-1, and not including upperBound. upperBound must be >= lowerBound. lowerBound may be negative.

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See Also

FastRandom Class

FastRandom Members

SharpNeatLib.Maths Namespace

FastRandom Next Method

GeneticSharp

Generates a random int over the range 0 to int.MaxValue-1. MaxValue is not generated in order to remain functionally equivalent to System.Random.Next(). This does slightly eat into some of the performance gain over System.Random, but not much. For better performance see: Call NextInt() for an int over the range 0 to int.MaxValue. Call NextUInt() and cast the result to an int to generate an int over the full Int32 value range including negative values.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

C# VB C++ F# Copy to Clipboard Print — public int Next()

Return Value

Type: MInt32

[Missing <returns> documentation for "M:SharpNeatLib.Maths.FastRandom.Next"]

See Also

FastRandom Class

FastRandom Members

Next Overload

SharpNeatLib.Maths Namespace

FastRandom Next Method (Int32)

GeneticSharp

Generates a random int over the range 0 to upperBound-1, and not including upperBound.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int Next(
    int upperBound
)
```

Parameters

upperBound

Type: System Int32

[Missing <param name="upperBound"/> documentation for "M:SharpNeatLib.Maths.FastRandom.Next(System.Int32)"]

Return Value

Type: MInt32

[Missing <returns> documentation for "M:SharpNeatLib.Maths.FastRandom.Next(System.Int32)"]

See Also

FastRandom Class

FastRandom Members

Next Overload

SharpNeatLib.Maths Namespace

FastRandom Next Method (Int32, Int32) GeneticSharp

Generates a random int over the range lowerBound to upperBound-1, and not including upperBound. upperBound must be >= lowerBound. lowerBound may be negative.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public int Next(
    int lowerBound,
    int upperBound
)

Parameters

lowerBound

Type: System Int32

[Missing <param name="lowerBound"/> documentation for
```

upperBound

Type: System Int32

[Missing <param name="upperBound"/> documentation for "M:SharpNeatLib.Maths.FastRandom.Next(System.Int32,System.Int32)"]

"M:SharpNeatLib.Maths.FastRandom.Next(System.Int32,System.Int32)"]

Return Value

Type: MInt32

[Missing <returns> documentation for "M:SharpNeatLib.Maths.FastRandom.Next(System.Int32,System.Int32)"]

See Also

FastRandom Class

FastRandom Members

Next Overload

SharpNeatLib.Maths Namespace

FastRandom NextBool Method

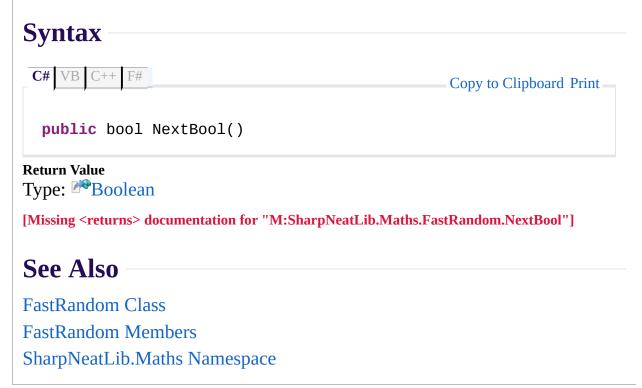
GeneticSharp

Generates a single random bit. This method's performance is improved by generating 32 bits in one operation and storing them ready for future calls.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434



FastRandom NextBytes Method

GeneticSharp

Fills the provided byte array with random bytes. This method is functionally equivalent to System.Random.NextBytes().

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

Copy to Clipboard Print

public void NextBytes(
    byte[] buffer
)
```

Parameters

buffer

Type: System Byte

[Missing <param name="buffer"/> documentation for "M:SharpNeatLib.Maths.FastRandom.NextBytes(System.Byte[])"]

See Also

FastRandom Class

FastRandom Members

SharpNeatLib.Maths Namespace

FastRandom NextDouble Method

GeneticSharp

Generates a random double. Values returned are from 0.0 up to but not including 1.0.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax



Return Value

Type: Pouble

[Missing < returns > documentation for "M:SharpNeatLib.Maths.FastRandom.NextDouble"]

See Also

FastRandom Class

FastRandom Members

SharpNeatLib.Maths Namespace

FastRandom NextInt Method

GeneticSharp

Generates a random int over the range 0 to int.MaxValue, inclusive. This method differs from Next() only in that the range is 0 to int.MaxValue and not 0 to int.MaxValue-1. The slight difference in range means this method is slightly faster than Next() but is not functionally equivalent to System.Random.Next().

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

C# VB C++ F# Copy to Clipboard Print public int NextInt() Return Value Type: Int32 [Missing < returns > documentation for "M:SharpNeatLib.Maths.FastRandom.NextInt"] See Also FastRandom Class FastRandom Members SharpNeatLib.Maths Namespace

FastRandom NextUInt Method

GeneticSharp

Generates a uint. Values returned are over the full range of a uint, uint.MinValue to uint.MaxValue, inclusive. This is the fastest method for generating a single random number because the underlying random number generator algorithm generates 32 random bits that can be cast directly to a uint.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434



FastRandom Reinitialise Method

GeneticSharp

Reinitialises using an int value as a seed.

Namespace: SharpNeatLib.Maths

Assembly: GeneticSharp.Domain (in GeneticSharp.Domain.dll) Version:

1.0.5010.36434

Syntax

```
C# VB C++ F#

public void Reinitialise(
    int seed
)

Parameters
seed
Type: System Int32

[Missing < param name="seed"/> documentation for
    "M:SharpNeatLib.Maths.FastRandom.Reinitialise(System.Int32)"]
```

See Also

FastRandom Class

FastRandom Members

SharpNeatLib.Maths Namespace