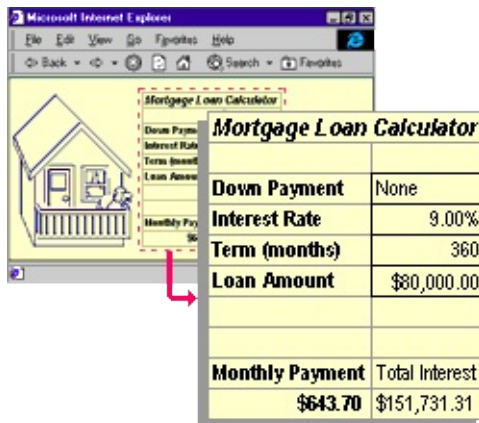


About spreadsheets

You can use a spreadsheet to enter and calculate data. A spreadsheet consists of columns and rows of cells. You can enter data directly into the cells of the spreadsheet and perform calculations that are based on the data by using formulas. When you create an interactive spreadsheet by using one of the Microsoft Office XP design programs and put that spreadsheet on a Web page, you give Web users the opportunity to interact with the data and perform calculations directly in the browser. Users can make changes to the data and see the results of calculations automatically.

The following example is a spreadsheet on a Web page designed to be used as a mortgage calculator. When the user changes the values in the bordered input cells in the browser, the spreadsheet calculates the mortgage payment.



<i>Mortgage Loan Calculator</i>	
Down Payment	None
Interest Rate	9.00%
Term (months)	360
Loan Amount	\$80,000.00
Monthly Payment	Total Interest
\$643.70	\$151,731.31

- ▶ Browser and license requirements
- ▶ Design programs you can use to create or modify spreadsheets
- ▶ Creating the spreadsheet and customizing it
- ▶ Testing and publishing

Browser support for spreadsheets

To work with interactive spreadsheets in Microsoft Internet Explorer 4.01 and later, users must have the Microsoft Office Web Components installed and an appropriate Office XP license. Users who do not have an Office XP license can install the components and view them on a Web page, but cannot interact with them. Learn more about [installation and licensing of components](#).

Following are the levels of browser support available when users have the Office Web Components installed and an Office XP license.

- ▶ Microsoft Internet Explorer 5 and later
- ▶ Microsoft Internet Explorer versions 4.01, 4.1x, and 4.2x
- ▶ Other browsers

About using a spreadsheet in the browser

This topic provides information about how users in the Microsoft Internet Explorer Web browser can interact with a spreadsheet that you create. Understanding the browser capabilities of spreadsheets should help you better design them to serve the needs of your users.

- ▶ [Working in a browser vs. a design program](#)
- ▶ [What users can do in the browser](#)
- ▶ [Restricting what users can do in the browser](#)

About Microsoft Office Web Components

Microsoft Office Web Components is a set of ActiveX controls installed with Microsoft Office XP. With Office Web Components installed on your computer, you can interactively use a spreadsheet, a PivotTable list, and a chart on a Web page in Microsoft Internet Explorer 4.01 or later. If you want to use the components on a data access page in Microsoft Access, you should have Internet Explorer 5 or later.

If Office Web Components is not installed on your computer but you have an Office XP site license that permits intranet distribution, you can configure the components so that users will be prompted to download Office Web Components from your corporate intranet. This allows users at your site to use a data access page without having Office XP software installed on their computers.

For information about how to configure Office Web Components, see the *Microsoft Office XP Resource Kit*.

About installing, licensing, and distributing Office Web Components

When you design a Web page using Microsoft Office Web Components, any user with a Microsoft Office XP license can interact with the components in the browser to the level of interactivity you provide. That is, a user with an appropriate license can make changes to data in a spreadsheet, change formatting, drag fields in a chart or PivotTable List, and so on, as long as you didn't protect these options at design time. Users with an Office XP license can also create, design, and modify components in a design environment such as Microsoft FrontPage or Microsoft Access.

Users who do not have Office XP licenses can view the components and the data in them, and can print the view of the components, but they cannot interact with the components or manipulate them in a design environment. This means that if you distribute a Web page that uses components, users who have Office XP licenses will have access to all functionality provided, but users without a license can only view the data and information you've provided.

- ▶ [Installing the Office Web Components](#)
- ▶ [Details on licensing and functionality](#)

About View-only mode for Office Web Components

If you do not have a Microsoft Office XP software license installed on your computer or accessed via a Microsoft Office XP application, you can view a Microsoft Office Web Component — a Spreadsheet Component, Chart Component, or PivotTable Component — on a Web page, but you can't interact with it.

To be able to interact with and use full functionality of the component you are viewing, you must install Microsoft Office XP or have access to an Office XP license. If you are in a corporate or group environment, check with your network administrator for assistance.

When you are in View-only mode, you can:

View data.

Print.

Select and scroll.

Use hyperlinks.

Resize a component.

Select sheets in the Spreadsheet Component.

Expand or collapse members in a PivotTable list.

Refresh data in a PivotTable list.

Use the **About**, **Help**, and **Refresh** commands. Help topics that deal with interactivity (such as formatting cells, dragging fields, sorting, filtering, and so on) do not apply.

All commands except **About**, **Help**, and **Refresh** are unavailable in View-only mode.

About getting help for spreadsheets

- ▶ Getting help in other design programs
- ▶ Getting help with writing scripts and programs that use spreadsheets
- ▶ Getting and providing help in the browser

Keyboard shortcuts in spreadsheets



For information about the keys to activate and deactivate the Microsoft Office Spreadsheet Component on the page, see Help in your design program.

- ▶ Keys for moving and scrolling in a spreadsheet
- ▶ Keys for moving with SCROLL LOCK on
- ▶ Keys for working with sheets
- ▶ Keys for entering data on a sheet
- ▶ Keys for working in cells
- ▶ Keys for formatting data
- ▶ Keys for editing data
- ▶ Keys for inserting, deleting, and copying a selection
- ▶ Keys for moving within a selection
- ▶ Keys for selecting cells, columns, or rows
- ▶ Keys for working with AutoFilter drop-down lists
- ▶ Keys for working with Help

About spreadsheet tools, commands, and options

- ▶ Toolbar
- ▶ **Commands and Options** dialog box
- ▶ Restricting access to the toolbar and **Commands and Options** dialog box

Show or hide the **Commands and Options** dialog box


1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Do one of the following:
 - To show the **Commands and Options** dialog box, click **Commands and Options**  on the [toolbar](#).
 - To hide the **Commands and Options** dialog box, click **Close**  in the upper right corner of the dialog box.

Create a Microsoft Office Spreadsheet Component

The specific steps for creating a spreadsheet depend on the program you are using to design your Web page. For more information, see Help for that program. If your design program Help does not provide a procedure for creating components such as spreadsheets, follow these steps:

1. In your design program, open or create the Web page where you want the spreadsheet to appear.
2. Using the design program's procedure for adding a component to a Web page, select the spreadsheet component and designate the location and initial size of the component on the Web page.
3. [Enter data and formulas](#) in the spreadsheet, or [import the data to use in the spreadsheet](#).
4. Use the [Commands and Options dialog box and toolbar](#) to customize your spreadsheet.
5. Using the instructions in your design program, publish the spreadsheet.

Add or remove sheets

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Click **Commands and Options**  on the [toolbar](#), and then click the **Workbook** tab.
3. Under **Worksheets**, do one of the following:


- To add a sheet, click **Insert**. Repeat to add multiple sheets.

You can change the name of an inserted sheet by selecting the name in the **Sheet name** list, typing a new name in the **Sheet name** box, and pressing ENTER.




- To remove a sheet, click the name of the sheet in the **Sheet name** list, and then click **Delete**.

The sheet and its data are permanently deleted.

Change the name of a sheet


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Worksheets**, in the **Sheet name** list, click the name of the sheet you want to change.
4. Type the new name in the **Sheet name** box.
5. Press ENTER.

Change the order of sheets


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Worksheets**, in the **Sheet name** list, click the name of a sheet you want to move.
4. Click **Up**  to move the sheet toward the beginning of the workbook, or **Down**  to move the sheet toward the end of the workbook.

Show or hide column headers or row headers

Column headers are the letters in gray cells (or in cells of another color, depending on your Microsoft Windows display settings) across the top of the spreadsheet, and row headers are the numbers in gray cells down the side of the spreadsheet.

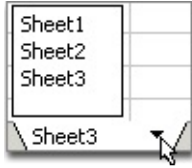
1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Sheet** tab.
3. Under **Show/Hide**, select or clear the **Column headers** or **Row headers** check boxes.


Show or hide gridlines in a spreadsheet

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Sheet** tab.
3. Under **Show/Hide**, select or clear the **Gridlines** check box.


Show or hide the sheet selector

The sheet selector consists of the **Sheet name** tab and the **Sheet** list, the second of which appears when you click the arrow on the tab.




1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Show/Hide**, select or clear the **Sheet selector** check box.

Show or hide scroll bars


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Show/Hide**, select or clear the **Horizontal scrollbar** and **Vertical scrollbar** check boxes.

Show or hide sheets

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Worksheets**, in the **Sheet name** list, select the name of the sheet you want to show or hide.
4. Click **Hide** or **Unhide**.

Note **Unhide** is available only for hidden sheets. Sheet names for hidden sheets are followed by (hidden).


Show only part of a spreadsheet

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Sheet** tab.
3. In the **Viewable range** box, type the range to display.

For example, to display rows 1 through 15, type **1:15**. To display columns A through F, type **A:F**. To display cells A1 through B20, type **A1:B20**.

Note This setting cannot be changed in the browser.

Change which cell becomes active when you press ENTER

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Advanced** tab.
3. To move the active cell selection or to prevent the active cell selection from moving after you press ENTER, select or clear the **Move after return** check box.



If you want to specify the direction in which the active cell selection should move after you press ENTER, click the arrow next to the **Move direction** box and then click **Down**, **Left**, **Right**, or **Up**.

Note The cell selection does not move when the boundaries of the spreadsheet are reached. For example, when the cell selection is set to move down and you press ENTER in a cell in the bottom row, the selection does not move.

Keep specific rows or columns visible as you scroll a spreadsheet

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Select the row below the rows you want to keep visible as you scroll, or select a column to the right of the columns you want to keep visible.


If you want to keep both specific rows and specific columns visible as you scroll, select one cell below and to the right of the rows and columns you want to keep visible.

3. On the [toolbar](#), click **Commands and Options** , and then click the **Sheet** tab.
4. Click **Freeze Panes** .

Note This setting cannot be changed in the browser.

Turn automatic sizing on or off for a spreadsheet

When the spreadsheet is set to the size of the viewable range and you turn automatic sizing on, the spreadsheet expands and shrinks on the Web page depending on content. It changes size as necessary when you insert and delete rows and columns, or when you change row heights or column widths.

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Advanced** tab.
3. Select or clear the **Autofit Spreadsheet** check box.

If you want to prevent the spreadsheet from expanding beyond a specified size, type a value — either in pixels or as a percentage of the entire Web page — in the **Max height** box or the **Max width** box, or in both boxes. For example, to allow the spreadsheet to expand up to half the width of the Web page, type **50%** in the **Max width** box. To limit the width of the spreadsheet to 300 pixels, type **300** in the **Max width** box.


Create a chart based on a spreadsheet

If you publish a spreadsheet from Microsoft Excel, you can take advantage of extensive Excel charting capabilities to create a chart based on spreadsheet data and publish the chart with the spreadsheet. This is one of the easiest ways to create a chart based on a spreadsheet.

In other design programs, you can create a spreadsheet and a chart by using two Microsoft Office Web Components: the Spreadsheet Component and the Chart Component.

Follow these steps to create a chart for your spreadsheet.

1. Following the directions in your design program, use the Spreadsheet Component to create the spreadsheet on a Web page, and then add the data you want to use in your chart.
2. Following the directions in your design program, use the Chart Component to create a chart on the same Web page where the spreadsheet exists.
3. If the **Commands and Options** dialog box does not appear, click the chart.
4. On the **Data Source** tab, under **Select where the chart data comes from**, click **Data from the following Web page item**.
5. Click the spreadsheet item in the list.
6. Under **Set details for the data type**, click **Ranges**.
7. Do one of the following:
 - ▶ [Specify all the data at one time](#)
 - ▶ [Specify one series of data at a time](#)
8. Click the **Type** tab, and then select the type of chart you want.


Note For help with Chart commands and options such as formatting and modifying the chart, click **Help**  on the **General** tab of the chart **Commands and Options** dialog box.

Save changes

To save your changes, use the command in the design program to save the Web page or the file containing the spreadsheet. For information about how to save the Web page or file, see Help in your design program.



Notes

If you published the spreadsheet from a Microsoft Excel worksheet and then opened the Web page in another design program, saving the Web page does not save the changes back to the original Excel worksheet.

If you want to save a copy of the spreadsheet as an Excel worksheet on your computer, you can export the spreadsheet to Excel by clicking **Export to Microsoft Excel**  on the [toolbar](#). You can also copy spreadsheet data to Excel and other programs.

Users cannot save the Web page in the browser, but they can export or copy it from the browser.

Undo changes

To undo the last change you made in the spreadsheet, click **Undo**  on the [toolbar](#). You can undo multiple changes (up to 16) by clicking **Undo**  more than once.


To undo all changes you have made to the spreadsheet since the last time you saved the Web page, close the Web page without saving it in the design program.

Print a spreadsheet

To print a spreadsheet on a Web page, you must print the entire Web page.


To print a spreadsheet from a design window, see Help in your design program for specific instructions about printing a Web page.

To print a spreadsheet from the browser, click **Print** on the Microsoft Internet Explorer **File** menu.

Note If the spreadsheet is wider or longer than the printed page, the areas that don't fit on the page are not printed. For more control over how the data is printed, including the ability to print a long list and set page breaks, you can export the spreadsheet to Microsoft Excel by clicking **Export to Microsoft Excel**  on the [toolbar](#). For information about printing from Excel, see Excel Help.

Remove protection from a spreadsheet

This procedure can be performed at design time only. Browser users do not have access to this option.

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Protection** tab.
3. Under **Sheet**, clear the **Protect active sheet** check box.
4. If you want users to be able to insert, remove, or rename sheets, or use the **Commands and Options** dialog box, check to be sure that the **Insert, remove, or rename sheets** check box and the **Commands and Options dialog box** check box under **Workbook** are selected.

Restrict use of a spreadsheet in the browser

You can prevent users from making changes to sheets by using protection options that are available only during design time. These options take effect during run time, and generally do not apply while you're designing the spreadsheet.

- ▶ [Protect entire sheet](#)
- ▶ [Protect only specific cells](#)
- ▶ [Display only part of a spreadsheet](#)
- ▶ [Prevent sheets from being inserted, removed, or renamed](#)
- ▶ [Prevent display of the **Commands and Options** dialog box](#)
- ▶ [Prevent or allow monitoring of events by programs and scripts](#)

Notes

You cannot set passwords on spreadsheets.

If you don't want users to make changes to your spreadsheet, consider publishing a noninteractive HTML version of the spreadsheet. See Microsoft Excel Help for more information.

How a spreadsheet handles dates in the year 2000 and beyond

Because the rules that govern the way any calculation program interprets dates are complex, you should be as specific as possible about dates whenever you enter them. This will produce the highest level of accuracy in your date calculations.

How a spreadsheet interprets ambiguous dates When interpreting ambiguous dates, the spreadsheet makes certain assumptions. For example, when you enter a date that includes only the month and one or two digits, the spreadsheet assumes that 1 through 31 is the day and that the year is the current year. For instance, the spreadsheet assumes that December 01 is December 1 of the current year, not December of the year 2001. The spreadsheet assumes that December 32 is December 1, 1932.

How a spreadsheet interprets two-digit years By default, when you enter a two-digit year value, the spreadsheet interprets the year as follows:

00 through 29 The spreadsheet interprets the two-digit year values 00 through 29 as the years 2000 through 2029. For example, if you type the date 5/28/19, the spreadsheet assumes the date is May 28, 2019.

30 through 99 The spreadsheet interprets the two-digit year values 30 through 99 as the years 1930 through 1999. For example, if you type the date 5/28/98, the spreadsheet assumes the date is May 28, 1998.

Use four-digit years To ensure that the spreadsheet interprets year values the way you intended, type year values as four digits (for example, 2001, rather than 01).

If your users' systems are customized differently from your own, dates that users enter in the browser might be interpreted differently from dates you enter in the design program. To ensure that dates are interpreted correctly in the browser, enter all dates with four digits for the year.

Change how years are interpreted Your system administrator, or the system administrator for your users, can customize Microsoft Office so that different rules determine how dates are interpreted. For example,

your administrator could change the earliest two-digit year value that's interpreted as a date in the twentieth century from 30 to another number. Also, administrators can change the default date format to display four-digit years instead of two-digit years.

To find out if your system uses customized date interpretation, see your system administrator. For information about how to customize date interpretation, see the *Microsoft Office XP Resource Kit*.

About entering text, numbers, dates, and times in a spreadsheet

- ▶ Entering text
- ▶ Entering numbers
- ▶ Entering dates and times

Enter text, numbers, dates, and times in a spreadsheet

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Click the cell where you want to enter data.
3. Type the data, and then press ENTER or the TAB key.

Notes

To separate the parts of a date, use a slash or a hyphen; for example, type **9/5/2002** or **5-Sep-2002**.

To enter a time based on the 12-hour clock, type a space and then type **AM** or **PM** after the time; for example, type **9:00 PM**. Otherwise, the spreadsheet enters the time as AM.

Precede formulas with an equal (=) sign.

To enter a hyperlink, type the URL address, beginning with a protocol such as **http://** or **ftp://**, and then press ENTER.

To enter the same data in several cells, select the cells, type the data, and then press CTRL+ENTER.

Change data in a cell

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Click the cell you want to change.
3. Do one of the following:
 - To enter a new number or text in the cell, replacing the current contents of the cell, type the new value.
 - To change a portion of the contents of the cell, double-click the cell and make your changes.
4. To accept your changes to the cell, press ENTER.

Notes

A cell can have only one font and text format.

If you see a message indicating that the range is locked, you must turn off protection before you can modify the cell.

About moving and copying data

When you copy a cell, you copy the entire cell, including formulas and their resulting values, and cell formats. Cells that you copy or move replace any data in the area where you paste the cells.

- ▶ Copying and moving affects formulas
- ▶ Filtering affects copying and moving
- ▶ Copying to other programs
- ▶ Copying in the Spreadsheet Component differs from Microsoft Excel

Move and copy data

- ▶ Move or copy whole cells
- ▶ Move or copy characters within a cell

Insert or delete rows or columns

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Do one of the following:
 - ▶ [Insert rows or columns](#)
 - ▶ [Delete rows or columns](#)

Insert, change, or delete a hyperlink

- ▶ [Insert a hyperlink](#)
- ▶ [Change a hyperlink](#)
- ▶ [Delete a hyperlink](#)

Clear cell contents

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Select the cells that you want to clear.
3. Press DELETE.

▶ Tip

About formulas

- ▶ What is a formula?
- ▶ Calculation
- ▶ Constants vs. cell references
- ▶ Functions

Examples of commonly used formulas

- ▶ Create a sum based on one condition
- ▶ Count the occurrences of a value or a condition
- ▶ Calculate a running balance
- ▶ Join first and last names
- ▶ Join a date with text
- ▶ Increase a number by a percentage

Create a formula

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Click the cell in which you want to add a formula.
3. Type an equal sign (=).
4. Type the formula.
5. Press ENTER.

▶ Tip


Change a formula

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Double-click the cell that contains the formula you want to change so that the formula appears in the cell.

If the cell contains a hyperlink, click a cell next to the cell you want to change, and then use an arrow key to select the cell with the formula you want to change. Then press F2.


3. Make changes to the formula in the cell.
4. Press ENTER.

View a formula and its result at the same time

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Click the cell that contains the formula you want to view.
3. On the [toolbar](#), click **Commands and Options** , and then click the **Formula** tab.
4. Review the formula in the **Formula in active cell (*reference*)** box. The result of the formula is displayed in the **Cell value** box.

Insert a total for a range

You can insert a sum for a range of cells automatically by using **AutoSum**.


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Click the first blank cell that follows the data you want to sum, either below the column of data or to the right of the data in a row, or select a column range to sum.
3. On the [toolbar](#), click **AutoSum** .

A suggested formula is displayed in the cell you selected or in the cell below the column range you selected.

4. Do one of the following:
 - To accept the suggested formula, press ENTER.
 - To change the suggested formula, select the range you want to sum and press ENTER.

Change when a spreadsheet calculates

When a spreadsheet contains many formulas, it might take a long time to calculate. To speed up your work, you can change the calculation mode from automatic to manual so that you can decide when to recalculate the spreadsheet.


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the spreadsheet [toolbar](#), click **Commands and Options** , and then click the **Workbook** tab.
3. Under **Calculation**, do one of the following:
 - To recalculate the spreadsheet whenever a value changes, select **Automatic**.
 - To recalculate the spreadsheet only when you press F9 or click **Calculate**, select **Manual**.

About using names in formulas

▶ [Overview](#)

▶ [Guidelines](#)

Define names for cells, formulas, or constants


1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Formula** tab.
3. Under **Names**, type the name you want to use in the **Name** box.

If you want to define a name that is available to only one sheet (a local name), precede the name you want to use by the sheet name followed by an exclamation point. For example, if you want to name a cell Budget, and make it available only on Sheet2, type the following in the **Name** box:

Sheet2!Budget

4. In the **Refers to** box, type = (equal sign), followed by the formula, constant value, or reference to the cell or range of cells you want to name. For example, to name cells A1 through A5 on Sheet1, type the following:
=Sheet1!\$A\$1:\$A\$5
5. Click **Define**.

Change or delete a defined name

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the [toolbar](#), click **Commands and Options** , and then click the **Formula** tab.
3. Under **Names**, in the **All names** box, click the name you want to change or remove.
4. Do one of the following:
 - To change the name, type a new name in the **Name** box and click **Define**. Then, click the original name in the **All names** box and click **Remove**.
 - To change the cell, formula, or constant represented by a name, change it in the **Refers to** box, and then click **Define**.
 - To delete the name, click **Remove**.

About cell and range references

- ▶ [Overview](#)
- ▶ [Relative and absolute references](#)

About calculation

Calculation is the process that a spreadsheet uses to compute formulas in its cells and then display the results as values. By default, formulas are automatically calculated when a change occurs in the cells that the formulas refer to. However, you can change how a spreadsheet calculates.

Stored vs. displayed values Values are sometimes displayed and stored differently. Dates and times, for example, are stored as serial numbers but are usually displayed and printed in one of several date or time formats. The spreadsheet uses the stored serial numbers in calculations, which makes it possible to calculate the number of days between two dates.

The format that stored values are displayed in sometimes depends on how you choose to format them. For example, you can format a cell that contains the number 123456789 to display as 1.23E+08 by using the Scientific format. Or you can format a cell that contains a date with the serial number 36699 to display as "6/22/2000" or as "22-Jun-2000". Changing the display of a value does not change the stored value.

The regional settings in Microsoft Windows Control Panel also determine how number, currency, date, and time formats are displayed. For example, these settings determine whether years are displayed with two digits or four digits. See Windows Help for information about these formats.

About calculation operators

Operators specify the type of calculation that you want to perform on the elements of a formula. The Spreadsheet Component includes four types of calculation operators: arithmetic, comparison, text concatenation, and reference. Operators calculate in a specific order.

- ▶ [Types of operators](#)
- ▶ [Order in which operators calculate](#)

About creating a formula that uses data on the same Web page

You can return a value in a cell from data that's on the same Web page as your spreadsheet by using the Spreadsheet Component HOST function. For example, if you have a text box control on your page that's named TextBox1, the following formula will retrieve the value from the text box and display it in the cell that contains the formula:

```
=HOST().textbox1.value
```

You can also create formulas that perform calculations on values returned from the Web page. For example, if the text box you're returning a value from contains a sales amount, and cell C1 on the spreadsheet contains a commission rate, you could multiply the value returned from the Web page with the value in the commission rate cell:

```
=$C$1*HOST().textbox1.value
```

You can also reference a value in another spreadsheet on the same Web page. For example, if you have spreadsheet1 and spreadsheet2 on a Web page, the following formula in spreadsheet1 returns the value from cell A1 in spreadsheet2:

```
=HOST().spreadsheet2.range("a1").value
```

For more information about the functions, controls, and properties you can use on a spreadsheet, see the [programming Help topics for spreadsheets](#).

About array formulas and array constants

An array formula can perform multiple calculations and then return either a single result or multiple results. Array formulas act on two or more sets of values known as array arguments. Each array argument must have the same number of rows and columns. You create array formulas in the same way that you create other formulas, except you press CTRL+SHIFT+ENTER to enter the formula. When you're editing an array formula, the formula appears in italic formatting.

Array constants can be used in place of references when you don't want to enter each constant value in a separate cell on the worksheet.

Some of the built-in functions are array formulas, and must be entered as arrays to get the correct results.

- ▶ [Using array formulas](#)
- ▶ [Using array constants](#)

Create an array formula

- ▶ Calculate a single result
- ▶ Calculate multiple results

Edit an array formula

If an array formula occupies multiple cells, you must edit the entire range as though it is a single cell. You cannot change just one element of an array formula.

1. Select the cell that contains the array formula, or if the array formula occupies multiple cells, select the range that contains the array formula.

▶ [How?](#)"""

2. Press F2.
3. Make changes to the array formula.
4. Press CTRL+SHIFT+ENTER.

Select an array formula range




1. Select a cell within the array.
2. Press CTRL+/ (forward slash).

Move or copy an array formula

1. Select the entire array range.

▶ [How?](#)

“ ”

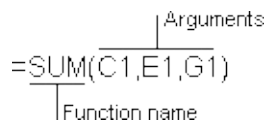
2. Click **Cut**  or **Copy**  on the [toolbar](#).
3. Select the entire destination range; otherwise, the array will be pasted into a single cell.
4. Click **Paste** .

About using spreadsheet functions

Functions are predefined formulas that perform calculations by using specific values, called arguments, in a particular order, or structure. For example, the SUM function totals values or ranges of cells, and the PMT function calculates the loan payments based on an interest rate, the length of the loan, and the principal amount of the loan. [See a list of available spreadsheet functions.](#)

Arguments Arguments can be numbers, text, logical values such as TRUE or FALSE, error values such as #N/A, cell references, constants, formulas, or other functions. Each argument you designate must produce a valid value for that argument.

Structure The structure of a function begins with the function name, followed by an opening parenthesis, the arguments for the function separated by commas, and a closing parenthesis. If the function starts a formula, type an equal sign (=) before the function name.

The diagram shows the formula =SUM(C1,E1,G1) with labels. A vertical line points from the word 'Arguments' to the range 'C1,E1,G1' inside the parentheses. Another vertical line points from the text 'Function name' to the word 'SUM' inside the parentheses. The equals sign and opening parenthesis are not labeled.

```
=SUM(C1,E1,G1)
```

Nested functions


In certain cases, you might need to use a function as one of the arguments of another function. For example, the following formula uses a nested AVERAGE function and compares the result with the value 50.

| Nested functions

```
=IF(AVERAGE(F2:F5)>50,SUM(G2:G5),0)
```

Valid returns When a nested function is used as an argument, it must return the same type of value that the argument uses. For example, if the argument returns a TRUE or FALSE value, the nested function must return TRUE or FALSE. If it doesn't, the spreadsheet displays a #VALUE! error value.

Format cells in a spreadsheet

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Select the cells you want to format.
3. On the [toolbar](#), click **Commands and Options** , and then click the **Format** tab.
4. Do one or more of the following:
 - ▶ [Change text font or size](#)
 - ▶ [Change a number format](#)
 - ▶ [Place borders around cells](#)
 - ▶ [Change the background color of cells](#)
 - ▶ [Align data in a cell](#)

Number formats

You can change the formats of numbers in a spreadsheet by using the **Commands and Options** dialog box, both in the design program and at run time in the browser. The settings in Microsoft Windows Control Panel also determine how number, currency, date, and time formats are displayed. For example, these settings determine whether years are displayed as two digits or four digits. See Windows Help for information about these formats.

In Microsoft Visual Basic or a script, you can assign custom number formats to the data. You can also type custom formats available in the spreadsheet object model in the **Number format** box. To find out more, see how to get [help for programming a spreadsheet](#).




The following number formats are available in the **Number format** list on the **Format** tab of the **Commands and Options** dialog box.

Format	Effects
General date	Displays a number as a date and optional time. For example, 8/31/99 05:54 AM. The fractional part of the number is the time. If a number has no fractional part, only a date appears. If a number has only a fractional part and no integer part, only a time appears.
Long date	Displays a date according to the Windows regional setting for the long date format. For example, Thursday, January 25, 2001.
Medium date	Displays a date according to the Windows regional setting for the month and date separator, and displays two digits for the year. For example, Jan/25/01.
Short date	Displays a date according to the Windows regional setting for the short date format. For example, 1/25/01.
Long time	Displays a time according to the Windows regional setting for the long time format. For


	example, 8:45:36 PM.
Medium time	Displays a time in 12-hour format with an AM or PM designator, omitting the seconds. For example, 8:45 PM.
Short time	Displays a time in 24-hour format, omitting the seconds. For example, 20:45.
General	Displays a number right-aligned, with no thousands separator, and preceded by a minus sign if negative. Displays up to 11 digits, or 10 digits with a decimal point, rounding additional digits to the right of the decimal point. Displays numbers with more than 11 digits to the left of the decimal point in scientific format. Displays text left-aligned.
Currency	Displays a number according to the Windows regional setting for currency, with a thousands separator if appropriate and two decimal places. For example, with the default English (United States) regional settings, \$2,532.75.
Euro currency	Displays a number as euro currency, with a thousands separator and two decimal places. The euro sign is placed before or after the number according to the Windows regional setting for currency. For example, with the default English (United States) regional setting, €12.35.
Fixed	Displays a number with two decimal places. For example, 68.30.
Standard	Displays a number with a thousands separator and two digits to the right of the decimal point. The Windows regional setting for numbers determines what's used for the thousands separator. For example, with a comma as the thousands separator, 1,800.00.
Percent	Displays a number multiplied by 100, with two decimal places and a percent sign. For example, the value 0.8914 would be displayed as 89.14%.

Scientific	Displays a number in exponential notation. For example, 1.25E+10.
Yes/no	Displays No if the number is 0; displays Yes for any other number.
True/false	Displays False if the number is 0; displays True for any other number.
On/off	Displays Off if the number is 0; displays On for any other number.


Merge or unmerge cells

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Select the cells that you want to merge. Keep in mind that when you merge cells, only data in the upper-left cell of the selected range is retained. Data in all other cells that you merge is deleted.
3. On the [toolbar](#), click **Commands and Options** , and then click the **Format** tab.
4. Under **Cell format**, click **Merge Cells**  or **Unmerge Cells** .

Change the width of a column

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Make sure column headers are displayed.
[▶ How?""](#)
3. Select the columns you want to change.
4. Point to the right boundary of the column header of the column or selection until the pointer changes to .
5. Drag the boundary to the width you want, or, to make the column width fit the contents, double-click the right column boundary.

Change the height of a row

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Make sure row numbers are displayed.
[▶ How?""](#)
3. Select the rows you want to change.
4. Point to the bottom boundary of the row header of the row or selection until the pointer changes to .
5. Drag the boundary until the row or selection is the height you want, or, to make the row height fit the contents, double-click the bottom row boundary.

Display text or a spreadsheet so that it reads right to left or left to right

Use right-to-left text direction or display when your spreadsheet will be viewed in languages that read from right to left.

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Do one of the following:
 - ▶ [Display an entire spreadsheet right to left or left to right](#)
 - ▶ [Display text right to left or left to right](#)

Under **Text Format**, click the arrow next to the **Text direction** box, and select an option from the list.

About finding data

The **Find what** feature (**Commands and Options** dialog box, **Sheet** tab) can locate text, numbers, dates, and times that have been entered directly into cells or that are the results of formulas.

Keep the following guidelines in mind when using **Find what** options:

Match case By default, **Find what** is not case sensitive. To find only those cells with values that match the case of your entry, select the **Match case** check box.

Entire cell only By default, **Find what** searches for cells that include the value you enter in the **Find what** box. For example, an entry of "John" finds cells with strings such as "Johnson" or "Little John." To find cells that contain only the value you entered and nothing else, select the **Entire cell only** check box.


Formatted values The **Find what** feature searches for displayed values, not formats. For example, suppose a cell is formatted with the Yes/No number format. If the cell contains a zero (0), the cell displays the word No, and you can use **Find what** to locate the phrase "No". You can't use **Find what** to find all cells formatted with a particular color or font.

Search direction The **Find what** feature searches from left to right across the columns of the first row, and then from left to right across the columns of the second row, and so on.

Wildcard characters The **Find what** feature does not allow wildcard characters such as question mark (?) and asterisk (*).

Hidden data The **Find what** feature does not find data in hidden cells or cells hidden by filtering.

Find data

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. To search the entire spreadsheet, click a single cell, or, to search within a specific range of cells, select the range.
3. On the [toolbar](#), click **Commands and Options** , and then click the **Sheet** tab.
4. In the **Find what** box, type the text or value you want to find.

Notes

- By default, **Find what** searches for cells that include the value you enter in the **Find what** box. For example, an entry of "John" finds cells with strings such as "Johnson" or "Little John." If you want to find cells that contain only the value you entered and nothing else, select the **Entire cell only** check box.
 - By default, **Find what** is not case sensitive. If you want to find only those cells with values that match the case of your entry, select the **Match case** check box.
5. Click **Find Next**.

Sort data


Data that you want to sort should be set up as a list. A list has similar items in each column, has labels for the columns across the top row, and does not include any blank rows or columns.

1. In the design window, make sure the spreadsheet is activated.
For instructions, see Help for your design program.
2. Do one of the following:
 - ▶ [Sort by a single column](#)
 - ▶ [Sort by more than one column](#)

Apply or remove a filter

- ▶ Apply a filter
- ▶ Remove a filter

Sum filtered data

1. In the design window, make sure the spreadsheet is activated.
For instructions, see [Help for your design program](#).
2. Filter the data to display the rows you want to sum.
[▶ How?'''](#)
3. Click the cell below the data you want to sum.
4. Click **AutoSum**  on the [toolbar](#), and then press ENTER.

Note The **AutoSum** button sums only the data in visible rows. To include all rows in the sum, show all rows and then sum the rows.

About spreadsheets published from Excel

When you publish a spreadsheet from Microsoft Excel, you can open the Web page and make design changes in Microsoft FrontPage or data access page Design view in Microsoft Access. You can also open the Excel worksheet (.xls file) if you saved it, make changes, and republish the spreadsheet to the same Web page. If you didn't save the Excel worksheet, you can export the spreadsheet to Excel, make changes, and either save a copy of the worksheet or publish the changed spreadsheet.

When you publish a spreadsheet from Excel, most of the Excel features are retained and work the same way as in Excel. Features in the following list will work differently or will not be retained when published or saved as a spreadsheet on a Web page.

Excel formulas, functions, and calculation features	What happens when published or saved as a Web page
Labels in formulas	Labels are converted to cell references.
References to data on other worksheets	References are converted to values.
Subtotals	Numbers and calculations appear correctly. Group and outline features are not retained.
1904 date system	The displayed dates remain the same, but the serial numbers for the dates are converted to the 1900 date system.
Precision as displayed	Cell value is published.
R1C1 reference style	R1C1 reference style is converted to A1 reference style.
Excel formatting, graphics, and display features	What happens when published or saved as a Web page
Rotated or vertical text	Rotated or vertical text is converted to horizontal text.
Distributed alignment	Not retained.

Thai alignment	Not retained.
Indented text	Not retained.
Wrapped text in cells	Not retained.
Graphics	Not retained.
Pattern fills	Not retained.
Dotted or broken borders	Dotted or broken borders are converted to solid borders.
Multiple fonts in a single cell	Not retained. The font of the first character in the cell is used.
Conditional formatting	Not retained.
Cell comments	Not retained.
Data validation restrictions and messages	Not retained.
Auditing tracer arrows	Not retained.
Outlining	Collapsed rows are published as hidden. Expanded rows are published normally.
Printing or page setup features	Not retained.


Excel file, sharing, and import features	What happens when published or saved as a Web page
Shared workbook information	Not retained.
Lotus compatibility	R1C1 reference style is converted to A1 reference style.
External data ranges	Values are published. The ability to refresh from the source data is not retained.
Web queries	Values are published. The ability to refresh from the source data is not retained.
Passwords	To publish a protected worksheet, you must use a blank (or no)

password.

Get data from other sources

- ▶ Copy and paste data from another program
- ▶ Import data from a Web page, text file, or XML file
- ▶ Create a formula that retrieves data
- ▶ Connect to a data source

Export a spreadsheet to an Excel workbook

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. On the spreadsheet [toolbar](#), click **Export to Microsoft Excel**  to run or switch to Microsoft Excel and display the data in a workbook.

Notes

Because Excel supports 256 columns and 65,536 rows, data in columns IW through ZZZ and rows 65,537 through 262,144 are not exported from the spreadsheet. You can, however, copy this data to more than one Excel worksheet.

When you export data from a spreadsheet to Excel, only the values and formulas are exported. Links that connect to other data on the Web page or to other Web pages are not retained in Excel.

When you export some spreadsheet number formats, the data in Excel is displayed with a custom number format. For example, the Yes/no, True/false, and On/off spreadsheet formats are displayed with custom number formats in Excel. For information about custom number formats in Excel, see Excel Help.

Troubleshoot spreadsheets

Entering and editing data and formulas

- ▶ I can't change cells in the spreadsheet.
- ▶ I can't wrap text within cells in a spreadsheet.
- ▶ There is no formula bar in my spreadsheet.
- ▶ I can't set a password for a spreadsheet.
- ▶ I can't change a hyperlink that I published from Microsoft Excel.
- ▶ I can't control the size of my spreadsheet.
- ▶ I can't control whether scroll bars are displayed or hidden in my spreadsheet.

Filtering, sorting, and finding data

- ▶ Data does not sort correctly in a spreadsheet.
- ▶ My spreadsheet list does not show all of my data.
- ▶ I have merged cells, and I can't filter my spreadsheet.
- ▶ The **Find Next** command is not finding data in my spreadsheet.
- ▶ I published a spreadsheet from Excel, and the AutoFilter drop-down list is wrong.

Importing and exporting

- ▶ I can't publish a password-protected spreadsheet from Excel.
- ▶ My spreadsheet filter is not exporting to Excel correctly.
- ▶ I get a message that there are too many rows or columns when I try to export my spreadsheet to Excel.

Working with the spreadsheet in the browser

- ▶ Users cannot interact with my spreadsheet in the browser.
- ▶ When I open a Web page that contains a spreadsheet in the browser, I receive the error "Cannot open URL."
- ▶ Clicking the **Edit** button in my Web browser opens my Web page in the wrong program.

Error values

- ▶ I see error values instead of results for formulas.

Troubleshoot error values in a spreadsheet

If a formula cannot properly evaluate a result, the spreadsheet displays an error value. For example, error values can result when a formula expects a numeric value but finds text, when a cell that is referenced by a formula has been deleted, or when the cell is not wide enough to display the result.

Error values might not be caused by the formula itself. For example, if a formula shows #N/A or #VALUE!, a cell referenced by the formula might contain the error.

Following are possible causes and solutions for each error value.

- ▶ #####
- ▶ #CIRC!
- ▶ #DIV/0!
- ▶ #N/A
- ▶ #NAME?
- ▶ #NULL!
- ▶ #NUM!
- ▶ #REF!
- ▶ #VALUE!

Show or hide the spreadsheet toolbar

1. In the design window, make sure the spreadsheet is activated. For instructions, see Help for your design program.
2. Right-click a cell in the spreadsheet, click **Commands and Options** on the shortcut menu, and then click the **Workbook** tab.
3. Under **Show/Hide**, select or clear the **Toolbar** check box.