

2.1

SELECT WHERE WHERE

“ =>>=<<=<>! ^=soundexbetweenin” ANDOR X X IS
X=NULL

SELECT empno ,ename ,sal FROM EMP WHERE sal>500;

SELECT * FROM EMP

WHERE (ename LIKE 'A%') OR (ename LIKE 'B%');

SELECT empno ‘’,ename ‘’ FROM EMP WHERE sal>1000;

2.2

SELECT ORDER BY ORDER BY

SELECT empno,ename,sal FROM EMP ORDER BY ename;

SELECT empno,ename,sal FROM EMP ORDER BY 2;

ORDER BY ASC DESC

SELECT EMPNO,ENAME,SAL FROM EMP ORDER BY SAL;

SELECT EMPNO,ENAME,SAL FROM EMP ORDER BY 3 ASC

SELECT EMPNO,ENAME,SAL FROM EMP ORDER BY SAL I

① NULL

ORACLE NULL

ORACLE NULL

② ORDER BY

SELECT EMPNO,ENAME,SAL 'SALARY'

FROM EMP ORDER BY SALARY;

2.3.1 Oracle equijoins

```
SELECT e.ename,e.deptno,d.dname
FROM EMP e, DEPT d
WHERE e.deptno=d.deptno;
```

I FROM

II EMPàeDEPTàd SELECT

```
SELECT ename, EMP.deptno, dname
FROM EMP , DEPT
WHERE EMP.deptno=DEPT.deptno;
```

III Cartesian WHERE Cartesian Cartesian Cartesian
SELECTWHERE WHERE Cartesian WHERE

```
SELECT ename, EMP.deptno, dname
FROM EMP, DEPT
WHERE EMP.deptno=DEPT.deptno
```

And DEPT.deptno>10;

ORACLE Cartesian WHERE N-1 FROM

2.3.5 ORACLE OUTER JOIN

ORACLE

ORACLE9i

```
SELECT e.ename, e.deptno, d.dname
FROM DEPT d,EMP e
WHERE d.deptno(+)=e.deptno;
```

```
SELECT e.ename, e.deptno, d.dname
FROM DEPT d,EMP e
WHERE d.deptno=e.deptno(+);
```

(2)

A (+)WHERE

B OR IN

ORACLE9i“ LEFT OUTER JOIN”“ RIGHT OUTER JOIN”“ F
OUTER JOIN” ANSI/ISO

--	--



	<pre>SELECT e.ename, e.deptno, d.dname FROM EMP e LEFT OUTER JOIN DEPT d ON d.deptno=e.deptno;</pre>
	<pre>SELECT e.ename, e.deptno, d.dname FROM EMP e RIGHT OUTER JOIN DEPT d ON d.deptno=e.deptno;</pre>
	<pre>SELECT e.ename, e.deptno, d.dname FROM EMP e FULL OUTER JOIN DEPT d ON d.deptno=e.deptno;</pre>

2.3.8

SELECT SELECT /GROUP BY“ ORA-00937
single-group group function” SELECT GROUP BY

SELECT deptno, job, AVG(sal) FROM EMP GROUP BY deptno

()

SELECT deptno, job, AVG(sal) FROM EMP GROUP BY deptno
HAVING AVG(sal)>300;

SELECTSELECT

SELECT

SELECT ... FROM ...

WHERE...

GROUP BY...HAVING...

ORDER BY...;

“”

```
SELECT ename,deptno,sal FROM EMP
WHERE deptno=(SELECT deptno FROM dept
               WHERE loc='New York');
```

```
“    SELECT deptno FROM dept WHERE loc='New York'”
```

```
“ >>=<<=<>”
```

3.2 Multirow Subqueries

IN, NOT IN

```
SELECT ename,job,sal FROM EMP
WHERE deptno in ( SELECT deptno FROM dept
                  WHERE dname LIKE 'A%');
```


3.3 Multiple-Column Subqueries

WHERE

```
SELECT deptno,ename,job,sal FROM EMP
```

```
WHERE (deptno,sal) IN (SELECT deptno,MAX(sal) FROM EMP  
GROUP BY deptno);
```

A WHERE

B WHERE

3.4 inline view Subqueries

FROM FROM inline view

SELECT ename,job,sal,rownum

FROM (SELECT ename,job,sal FROM EMP ORDER BY sal);

FROM ORDER BY ORDER BY

“ TOP-N” EMP

SELECT ename,job,sal,rownum

FROM (SELECT ename,job,sal FROM EMP ORDER BY sal)

WHERE rownum<=5;

Rownum

3.5

A HAVING

```
SELECT deptno,job,AVG(sal) FROM EMP
GROUP BY deptno,job
HAVING AVG(sal)>(SELECT sal FROM EMP WHERE ename='MARTI
N')
```

B ORACLE9i“ WITH”

```
SELECT dname,SUM(sal) AS dept_total
FROM EMP,DEPT
WHERE EMP.deptno=DEPT.deptno
GROUP BY dname
HAVING SUM(sal)>(SELECT SUM(sal)*1/3
FROM EMP,DEPT
WHERE EMP.deptno=DEPT.deptno)
ORDER BY SUM(sal) DESC;
“ SELECT SUM(sal) FROM EMP,DEPT WHERE EMP.deptno=DEPT.
deptno
WITH summary AS
( SELECT dname,SUM(sal) AS dept_total
```

```
FROM EMP,DEPT
WHERE EMP.deptno=DEPT.deptno
GROUP BY dname )
SELECT dname,dept_total FROM summary
WHERE dept_total>(SELECT SUM(dept_total)*1/3 FROM summary)
ORDER BY dept_total DESC;
```

C