READING MATERIAL 4

Working with NULL Values

Sometimes, a query for some information produces no result. In database terms, no result or nothing is called NULL. Null does not mean 0 or blank. Since NULL means no value or nothing or unknown value, it cannot be compared using relational or logical operators. Therefore you cannot test NULL value with equal to (=) operator, as NULL value cannot be equal to or unequal to any value. This value can be inserted into column of any data type. Generally, null value is used when the actual value is not known. We use the special operator 'IS' with the keyword NULL to find NULL values in the table.

Example: List the employee number and name who do not get any commission.

SQL> *SELECT empno, ename FROM emp WHERE comm IS NULL;*

OUTPUT:

EMPNO	ENAME
7369	SMITH
7566	JONES
7698	BLAKE
7782	CLARK
7788	SCOTT
7839	KING
7876	ADAMS
7900	JAMES
7902	FORD
7934	MILLER

Example: List the employee name and job of employees who do not report to anybody.

SQL> *SELECT ename, job FROM emp WHERE mgr IS NULL;*

OUTPUT:

ENAME	JOB
KING	PRESIDENT

Example: List the employee number and salary of the employees whose salary is greater than 2000 and are getting no commission.

SQL> *SELECT empno, sal FROM emp WHERE sal >2000 and comm IS NULL;*

OUTPUT:

EMPNO	SAL
7566	2975
7698	2850
7782	2350
7788	3000
7839	5000
7902	3000

ORDER BY Clause

Generally the result of the query is in unsorted form. To get the sorted result we use the ORDER BY clause. This clause will allow you to get the result of the query sorted either in ascending or descending order. The default order is ascending.

The syntax is:

```
SQL>
SELECT <column name(s) >
FROM <table name(s) >
[WHERE < condition(s)>]
[ORDER BY <column(s), expression> ] [ asc| desc]
```

Example: List the employee name and salary and sort them in descending order of their salary.

SQL> SELECT ename, sal FROM emp ORDER BY sal desc;

OUTPUT:

ENAME	SAL
KING	5000
SCOTT	3000
FORD	3000
JONES	2975
BLAKE	2850
CLARK	2450
ALLEN	1600
…..	……

Example: List the employee name and hiredate of the employees who do the job of clerk. Sort them in ascending order of their hiredate.

SQL> *SELECT ename, hiredate FROM emp WHERE job = 'CLERK' ORDER BY hiredate asc;*

OUTPUT: ** 'asc' is optional.

ENAME	HIREDATE
SMITH	17-DEC-80
JAMES	03-DEC-81
MILLER	23-JAN-82
ADAMS	23-MAY-87

Example: List the employee name, job and salary details and order them by their salary in descending order.

SQL> *SELECT ename,job,sal FROM emp ORDER BY sal desc;*

OUTPUT:

ENAME	JOB	SAL
KING	PRESIDENT	5000
SCOTT	ANALYST	3000
FORD	ANALYST	3000
JONES	MANAGER	2975
BLAKE	MANAGER	2850
CLARK	MANAGER	2450
ALLEN	SALESMAN	1600
TURNER	SALESMAN	1500
MILLER	CLERK	1300
WARD	SALESMAN	1250
MARTIN	SALESMAN	1250
ADAMS	CLERK	1100
JAMES	CLERK	950
SMITH	CLERK	800

Example: List the name, salary and department number of the employees and order them by their salary in descending order.

SQL> *SELECT ename, sal, deptno FROM emp ORDER BY 2 desc;*

OUTPUT:

ENAME	SAL	DEPTNO
KING	5000	10
SCOTT	3000	20
FORD	3000	20
JONES	2975	20
BLAKE	2850	30
CLARK	2450	10
ALLEN	1600	30
TURNER	1500	30
MILLER	1300	10
WARD	1250	30
MARTIN	1250	30
ADAMS	1100	20
JAMES	950	30
SMITH	800	20

Order by clause can be used to sort multiple numbers of columns (the maximum is the columns of a given table). Moreover it is not necessary that the order by clause can be used only with the selected columns.

Example: List the employee name, salary and department number and sort the result by their department number and salary in descending order.

SQL> *SELECT ename, sal, deptno FROM emp ORDER BY deptno desc, sal desc;*

OUTPUT:

ENAME	SAL	DEPTNO
BLAKE	2850	30
ALLEN	1600	30
TURNER	1500	30
WARD	1250	30
MARTIN	1250	30
JAMES	950	30
SCOTT	3000	20
FORD	3000	20
JONES	2975	20
ADAMS	1100	20
SMITH	800	20
KING	5000	10
CLARK	2450	10
MILLER	1300	10

Here, the output is in the descending order of deptno and within same deptno it is in descending order of sal.

Example: List the employee number, names and hiredate and sort the result by the employee number and then by their hire dates.

SQL> *SELECT empno, ename, hiredate FROM emp ORDER BY empno, hiredate asc;*

OUTPUT:

EMPNO	ENAME	HIREDATE
7369	SMITH	17-DEC-80
7499	ALLEN	20-FEB-81
7521	WARD	22-FEB-81
7566	JONES	02-APR-81
…..	…..	…..

** NULL values come at the end of the output of the query in case we use the ORDER BY clause.