ROWID :

ROWID is a pseudo-column which will be present for every table in oracle.

For each row in the database, the ROWID pseudo-column returns the address of the row. Oracle Database rowid values contain information necessary to locate a row:

* The data object number of the object
* The data block in the datafile in which the row resides
* The position of the row in the data block (first row is 0)
* The datafile in which the row resides (first file is 1). The file number is relative to the tablespace

Usually, a rowid value uniquely identifies a row in the database. Values of the ROWID pseudo-column have the datatype ROWID

Rowid values have several important uses:

* They are the fastest way to access a single row.
* They can show you how the rows in a table are stored.
* They are unique identifiers for rows in a table.

NOTE:

1. we should not use ROWID as Primary Key.

2. we can use the ROWID pseudo-column in the SELECT and WHERE clause of a query, these pseudo-column values are not actually stored in the database. You cannot insert, update, or delete a value of the ROWID pseudo-column.

EXAMPLE:

Select rowid , ename ,sal

From emp;

It gives the address of all the rows present in emp table.

ROWNUM:

ROWNUM is also a pseudo-column.

For each row returned by a query, the ROWNUM pseudo-column returns a number indicating the order in which Oracle selects the row from a table or set of joined rows. The first row selected has a ROWNUM of 1, the second has 2, and so on.

NOTE:  
1. We can use the rownum pseudo-column in where clause in-order to limit the number of records to be selected by a query.

Example:

Select \* from emp

Where rownum <=5;

It gives first 5 records from the employee table.

2. Condition checking for rownum values greater than a positive integer will always return false to where clause and the query select no record from the table.

Example:

Select \* from emp

Where rownum>1;

It gives no records.

3. If an order-by clause follows rownum in the same query, then the rows will be reordered by the order-by clause after assigning rownum.

select rownum,ename,sal

from emp

order by sal;

ROWNUM ENAME SAL

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2 SMITH 800

13 JAMES 950

12 ADAMS 1100

4 WARD 1250

6 MARTIN 1250

15 MILLER 1300

11 TURNER 1500

3 ALLEN 1600

8 CLARK 2450

7 BLAKE 2850

5 JONES 2975

14 FORD 3000

9 SCOTT 3000

10 KING 5000

\* to avoid the above problem we can use a subquery in the from clause as follows:

Select rownum , ename, sal

From (select ename , sal from emp order by sal);

ROWNUM ENAME SAL

---------- ---------- ----------

1 SMITH 800

2 JAMES 950

3 ADAMS 1100

4 WARD 1250

5 MARTIN 1250

6 MILLER 1300

7 TURNER 1500

8 ALLEN 1600

9 CLARK 2450

10 BLAKE 2850

11 JONES 2975

12 FORD 3000

13 SCOTT 3000

14 KING 5000

Queries on Rownum:

1. To display first N records from the table.

Select \*

From emp

Where rownum <=&N ;

2. To display first half records from the table.

Select \*

From emp

Where rownum <=( select count(\*)/2 from emp);

3. To display Nth record from the table.

Select \*

From emp

Where rownum <= &N

Minus

Select \*

From emp

Where rownum < &N ;

4. To display bottom N records from the table.

Select \*

From emp

Minus

Select \*

From emp

Where rownum <= (select count(\*) - &N from emp) ;

5. To display Nth max value in a table.

Example : 1. To obtain details of employee who earn 1st max salary in emp table.

Select \*

From emp

Where sal in (Select sal

From ( select distinct sal from emp where sal is not null order by sal desc)

Where rownum = 1);

2. To obtain details of employee who earn 2nd max salary in emp table.

Select \*

from emp

where sal in (Select sal

From ( select distinct sal from emp where sal is not null order by sal desc)

Where rownum <=2

Minus

Select \*

From ( select distinct sal from emp where sal is not null order by sal desc)

Where rownum <2);

Therefore, the query to display employee details who earn Nth max salary.

Select \*

from emp

where sal in (Select sal

From ( select distinct sal from emp where sal is not null order by sal desc)

Where rownum <=&N

Minus

Select \*

From ( select distinct sal from emp where sal is not null order by sal desc)

Where rownum <N);

Therefore, the query to display employee details who earn Nth max salary.

Select \*

from emp

where sal in (Select sal

From ( select distinct sal from emp where sal is not null order by sal asc)

Where rownum <=&N

Minus

Select \*

From ( select distinct sal from emp where sal is not null order by sal asc)

Where rownum <&N);