Assignment No	05
Title	Windows Functions
Objective	NVM, Preceding, Following
Roll No	MCA2565

1) Create table Employee with fields eno ,ename ,salary ,commission and hired date ,department number.

```
SQL> create table Emp1
  2  (eno NUMBER,ename VARCHAR(20),salary NUMBER,commission NUMBER(5),hiredate DATE,dptno NUMBER);

Table created.
```

```
SQL> insert into Emp1 values
  2  (01,'Atharva',80000,50000,'02-dec-2000',05);

1 row created.

SQL> insert into Emp1 values
  2  (02,'Alex',25000,5000,'12-jan-1996',05);

1 row created.

SQL> insert into Emp1 values
  2  (03,'LEX',30000,8000,'25-feb-1985',12);

1 row created.

SQL> insert into Emp1 values
  2  (04,'Harry',15000,3000,'12-nov-2005',06);

1 row created.

SQL> insert into Emp1 values
  2  (05,'Mary',18000,3000,'01-nov-1999',05);

1 row created.

SQL> insert into Emp1 values
  2  (06,'Banner',12000,NULL,'13-mar-2012',01);

1 row created.

SQL> insert into Emp1 values
  2  (07,'Yadhnesh',50000,'','12-apr-2001',06);
```

```
SQL> select * from emp1;

       ENO ENAME                SALARY COMMISSION HIREDATE       DPTNO
---------- -------------------- ---------- ---------- --------- ----------
         1 Atharva                   80000      50000 02-DEC-00          5
         2 Alex                      25000       5000 12-JAN-96          5
         3 LEX                       30000       8000 25-FEB-85         12
         4 Harry                     15000       3000 12-NOV-05          6
         5 Mary                      18000       3000 01-NOV-99          5
         6 Banner                    12000            13-MAR-12          1
         7 Yadhnesh                  50000            12-APR-01          6
         8 Sameer                    20000       1000 18-OCT-96          2
         9 MAX                       35000       9000 05-MAY-86         10
        10 Xavier                    39000      10000 30-JUL-90          9

10 rows selected.
```

2) Using windows nvm function

```
SQL> select eno,ename,salary,nvl(commission,1000) new_commission from emp1 order by commission desc;

       ENO ENAME                SALARY NEW_COMMISSION
---------- -------------------- ---------- --------------
         6 Banner                    12000           1000
         7 Yadhnesh                  50000           1000
         1 Atharva                   80000          50000
        10 Xavier                    39000          10000
         9 MAX                       35000           9000
         3 LEX                       30000           8000
         2 Alex                      25000           5000
         4 Harry                     15000           3000
         5 Mary                      18000           3000
         8 Sameer                    20000           1000

10 rows selected.
```

3) Displaying lowest salary in every department

```
SQL> select eno,ename,salary FROM(SELECT eno,ename,salary,rank()
  2  OVER (PARTITION BY dptno ORDER BY salary)
  3  lower FROM emp1) WHERE lower=1;

       ENO ENAME                SALARY
---------- -------------------- ----------
         6 Banner                    12000
         8 Sameer                    20000
         5 Mary                      18000
         4 Harry                     15000
        10 Xavier                    39000
         9 MAX                       35000
         3 LEX                       30000

7 rows selected.
```

4)Preceding function

```
SQL> select eno,ename,dptno,sum(salary) OVER
  2  (PARTITION BY dptno ORDER BY dptno rows 2 PRECEDING)
  3  Total from emp1 ORDER BY dptno;

       ENO ENAME                    DPTNO      TOTAL
---------- -------------------- ---------- ----------
         6 Banner                        1      12000
         8 Sameer                        2      20000
         2 Alex                          5      25000
         1 Atharva                       5     105000
         5 Mary                          5     123000
         4 Harry                         6      15000
         7 Yadhnesh                      6      65000
        10 Xavier                        9      39000
         9 MAX                          10      35000
         3 LEX                          12      30000

10 rows selected.
```

5) Sum of 3 earlier rows and next 1 following row

```
SQL> select eno,ename,dptno,sum(salary) OVER
  2  (PARTITION BY dptno ORDER BY dptno rows between 3 Preceding and 1 FOLLOWING)
  3  Total from emp1 ORDER BY dptno;

       ENO ENAME                    DPTNO      TOTAL
---------- -------------------- ---------- ----------
         6 Banner                        1      12000
         8 Sameer                        2      20000
         2 Alex                          5     105000
         1 Atharva                       5     123000
         5 Mary                          5     123000
         4 Harry                         6      65000
         7 Yadhnesh                      6      65000
        10 Xavier                        9      39000
         9 MAX                          10      35000
         3 LEX                          12      30000

10 rows selected.
```

6) Display eno,ename,dptno,salary and sum of salary for all preceding and current row wise BETWEEN UNBOUNDEED PRECEDING AND CURRENT ROW

```
SQL> select eno,ename,salary,dptno,sum(salary) OVER
  2  (PARTITION BY dptno ORDER BY dptno rows  BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW)
  3  Total from emp1 ORDER BY dptno;

       ENO ENAME                    SALARY     DPTNO      TOTAL
---------- -------------------- ---------- ---------- ----------
         6 Banner                    12000          1      12000
         8 Sameer                    20000          2      20000
         2 Alex                      25000          5      25000
         1 Atharva                   80000          5     105000
         5 Mary                      18000          5     123000
         4 Harry                     15000          6      15000
         7 Yadhnesh                  50000          6      65000
        10 Xavier                    39000          9      39000
         9 MAX                       35000         10      35000
         3 LEX                       30000         12      30000

10 rows selected.
```

7) Write a query to find out the person who joined first from hired date

1----Method 1

```
SQL> with rankeddates as(select eno,ename,salary,dptno,hiredate,
  2  Dense_rank() over (PARTITION BY DPTNO ORDER BY HIREDATE ASC)
  3  AS DateRank from emp1 )
  4  select eno,ename,salary,dptno,hiredate from rankeddates
  5  where daterank = 1;

       ENO ENAME                    SALARY      DPTNO HIREDATE
---------- -------------------- ---------- ---------- ---------
         6 Banner                    12000          1 13-MAR-12
         8 Sameer                    20000          2 18-OCT-96
         2 Alex                      25000          5 12-JAN-96
         7 Yadhnesh                  50000          6 12-APR-01
        10 Xavier                    39000          9 30-JUL-90
         9 MAX                       35000         10 05-MAY-86
         3 LEX                       30000         12 25-FEB-85

7 rows selected.
```

2---Method 2

```
SQL> SELECT eno, ename, salary, dptno, hiredate
  2  FROM emp1 e
  3  WHERE hiredate = (
  4      SELECT MIN(hiredate)
  5      FROM emp1
  6      WHERE dptno = e.dptno
  7  );

       ENO ENAME                    SALARY      DPTNO HIREDATE
---------- -------------------- ---------- ---------- ---------
         2 Alex                      25000          5 12-JAN-96
         3 LEX                       30000         12 25-FEB-85
         6 Banner                    12000          1 13-MAR-12
         7 Yadhnesh                  50000          6 12-APR-01
         8 Sameer                    20000          2 18-OCT-96
         9 MAX                       35000         10 05-MAY-86
        10 Xavier                    39000          9 30-JUL-90

7 rows selected.
```

3-----Method 3 ---easiest one

```
SQL> SELECT eno, ename, salary, dptno, hiredate from
  2  (
  3  select eno, ename,salary,dptno,hiredate,ROW_NUMBER() OVER
  4  (PARTITION BY dptno order by hiredate) rn
  5  from emp1) where rn = 1;

       ENO ENAME                    SALARY      DPTNO HIREDATE
---------- -------------------- ---------- ---------- ---------
         6 Banner                    12000          1 13-MAR-12
         8 Sameer                    20000          2 18-OCT-96
         2 Alex                      25000          5 12-JAN-96
         7 Yadhnesh                  50000          6 12-APR-01
        10 Xavier                    39000          9 30-JUL-90
         9 MAX                       35000         10 05-MAY-86
         3 LEX                       30000         12 25-FEB-85

7 rows selected.
```