Assignment No	5
Title	Windows Function
Objective	PRECEDING , FOLLOWING, NULL VALUES, LOWER
Roll No	MCA2511

Query:

```
create table employee1
(
eno NUMBER,
ename varchar(20),
salary NUMBER,
commission NUMBER(5),
hiredate DATE
);
```

```
SQL> create table employee1
  2  (
  3  eno NUMBER,
  4  ename varchar(20),
  5  salary NUMBER,
  6  commission NUMBER(5),
  7  hiredate DATE
  8  );

Table created.
```

```
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (101, 'e1', 50000, 2000, TO_DATE('2022-01-15', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (102, 'e2', 60000, 1500, TO_DATE('2021-06-01', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (103, 'e3', 55000, 0, TO_DATE('2020-11-20', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (104, 'e4', 70000, 2500, TO_DATE('2023-03-10', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (105, 'e5', 48000, NULL, TO_DATE('2024-05-05', 'YYYY-MM-DD'));
```

```
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (106, 'e6', 40000, 2000, TO_DATE('2022-01-15', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (107, 'e7', 61000, 1500, TO_DATE('2021-06-01', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (108, 'e8', 60000, 200, TO_DATE('2020-11-20', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (109, 'e9', 60000, 2200, TO_DATE('2023-03-10', 'YYYY-MM-DD'));
INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
VALUES (110, 'e10', 80000, NULL, TO_DATE('2024-05-05', 'YYYY-MM-DD'));
```

```
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (101, 'e1', 50000, 2000, TO_DATE('2022-01-15', 'YYYY-MM-DD'));

1 row created.

SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (102, 'e2', 60000, 1500, TO_DATE('2021-06-01', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (103, 'e3', 55000, 0, TO_DATE('2020-11-20', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (104, 'e4', 70000, 2500, TO_DATE('2023-03-10', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (105, 'e5', 48000, NULL, TO_DATE('2024-05-05', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (106, 'e6', 40000, 2000, TO_DATE('2022-01-15', 'YYYY-MM-DD'));

1 row created.
```

```
SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (107, 'e7', 61000, 1500, TO_DATE('2021-06-01', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (108, 'e8', 60000, 200, TO_DATE('2020-11-20', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (109, 'e9', 60000, 2200, TO_DATE('2023-03-10', 'YYYY-MM-DD'));

1 row created.

SQL>
SQL> INSERT INTO employee1 (eno, ename, salary, commission, hiredate)
  2  VALUES (110, 'e10', 80000, NULL, TO_DATE('2024-05-05', 'YYYY-MM-DD'));

1 row created.
```

select eno, ename, salary, nvl(commission, 1000) new_commission from employee1 order by commission desc;

```
SQL> select eno, ename, salary, nvl(commission, 1000) new_commission from employee1
  2  order by commission desc;

       ENO ENAME                    SALARY NEW_COMMISSION
---------- -------------------- ---------- --------------
       105 e5                        48000           1000
       110 e10                       80000           1000
       104 e4                        70000           2500
       109 e9                        60000           2200
       106 e6                        40000           2000
       101 e1                        50000           2000
       107 e7                        61000           1500
       102 e2                        60000           1500
       108 e8                        60000            200
       103 e3                        55000              0

10 rows selected.
```

create table emp(emp_no NUMBER(10),
Dep_no NUMBER(10),
emp_name VARCHAR(25),
dob DATE,
salary NUMBER(10),
Job VARCHAR(25));

```
SQL> create table emp(emp_no NUMBER(10),
  2  Dep_no NUMBER(10),
  3  emp_name VARCHAR(25),
  4  dob DATE,
  5  salary NUMBER(10),
  6  Job VARCHAR(25));

Table created.
```

INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (101, 201, 'e1', TO_DATE('2024-05-05', 'YYYY-MM-DD'), 50000, 'Assistant');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (102, 201, 'e2', TO_DATE('2022-06-04', 'YYYY-MM-DD'), 60000, 'Clerk');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (103, 201, 'e3', TO_DATE('2004-02-05', 'YYYY-MM-DD'), 28000, 'Accountant');

INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (104, 202, 'e4', TO_DATE('2020-05-01', 'YYYY-MM-DD'), 20000, 'Developer');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (105, 202, 'e5', TO_DATE('2019-05-25', 'YYYY-MM-DD'), 65000, 'S Dev');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (106, 202, 'e6', TO_DATE('2019-05-05', 'YYYY-MM-DD'), 45000, 'J Dev');

```
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (107, 203, 'e7', TO_DATE('2005-12-05', 'YYYY-MM-DD'), 45000, 'DBA');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (108, 203, 'e8', TO_DATE('2023-10-06', 'YYYY-MM-DD'), 23000, 'Manager');
INSERT INTO emp (emp_no, Dep_no, emp_name, dob, salary, Job)
VALUES (109, 203, 'e9', TO_DATE('2014-07-09', 'YYYY-MM-DD'), 85000, 'CA');
```

```
       103         201 e3                          05-FEB-04       28000
Accountant

       104         202 e4                          01-MAY-20       20000
Developer

       105         202 e5                          25-MAY-19       65000
S Dev


    EMP_NO     DEP_NO EMP_NAME                    DOB           SALARY
---------- ---------- ------------------------- --------- ----------
JOB
-------------------------
       106         202 e6                          05-MAY-19       45000
J Dev

       107         203 e7                          05-DEC-05       45000
DBA

       108         203 e8                          06-OCT-23       23000
Manager


    EMP_NO     DEP_NO EMP_NAME                    DOB           SALARY
---------- ---------- ------------------------- --------- ----------
JOB
-------------------------
       109         203 e9                          09-JUL-14       85000
CA


10 rows selected.
```

```
SELECT emp_no, emp_name, job, salary from
(SELECT emp_no, emp_name, job, salary, rank()
OVER(PARTITION BY dep_no ORDER BY SALARY)
lower FROM emp) WHERE lower=1;
```

```
SQL> SELECT emp_no, emp_name, job, salary from
  2  (SELECT emp_no, emp_name, job, salary, rank()
  3  OVER(PARTITION BY dep_no ORDER BY SALARY)
  4  lower FROM emp) WHERE lower=1;

    EMP_NO EMP_NAME                   JOB                         SALARY
---------- -------------------------- -------------------------- ----------
       103 e3                         Accountant                      28000
       104 e4                         Developer                       20000
       108 e8                         Manager                         23000
```

select emp_no,emp_name,salary,dep_no,sum(salary)
OVER (PARTITION BY dep_no ORDER BY dep_no rows 2 PRECEDING)
Total from emp ORDER BY dep_no;

```
SQL> select emp_no,emp_name,salary,dep_no,sum(salary)
  2  OVER (PARTITION BY dep_no ORDER BY dep_no rows 2 PRECEDING)
  3  Total from emp ORDER BY dep_no;

    EMP_NO EMP_NAME                       SALARY     DEP_NO      TOTAL
---------- -------------------------- ---------- ---------- ----------
       101 e1                              50000        201      50000
       101 e1                              50000        201     100000
       102 e2                              60000        201     160000
       103 e3                              28000        201     138000
       104 e4                              20000        202      20000
       106 e6                              45000        202      65000
       105 e5                              65000        202     130000
       108 e8                              23000        203      23000
       107 e7                              45000        203      68000
       109 e9                              85000        203     153000

10 rows selected.
```

select emp_no,emp_name,salary,dep_no,sum(salary)
OVER (PARTITION BY dep_no ORDER BY dep_no rows BETWEEN 3 PRECEDING AND 1 FOLLOWING)
Total from emp ORDER BY dep_no;

```
SQL> select emp_no,emp_name,salary,dep_no,sum(salary)
  2  OVER (PARTITION BY dep_no ORDER BY dep_no rows BETWEEN 3 PRECEDING AND 1 FOLLOWING)
  3  Total from emp ORDER BY dep_no;

    EMP_NO EMP_NAME                       SALARY     DEP_NO      TOTAL
---------- -------------------------- ---------- ---------- ----------
       101 e1                              50000        201     100000
       101 e1                              50000        201     160000
       102 e2                              60000        201     188000
       103 e3                              28000        201     188000
       104 e4                              20000        202      65000
       106 e6                              45000        202     130000
       105 e5                              65000        202     130000
       108 e8                              23000        203      68000
       107 e7                              45000        203     153000
       109 e9                              85000        203     153000

10 rows selected.
```

select emp_no,emp_name,salary,dep_no,sum(salary)
OVER (PARTITION BY dep_no ORDER BY dep_no rows
BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW)
Total from emp ORDER BY dep_no;

```
SQL> select emp_no,emp_name,salary,dep_no,sum(salary)
  2  OVER (PARTITION BY dep_no ORDER BY dep_no rows
  3  BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW)
  4  Total from emp ORDER BY dep_no;

    EMP_NO EMP_NAME                       SALARY     DEP_NO      TOTAL
---------- ------------------------- ---------- ---------- ----------
       101 e1                             50000        201      50000
       101 e1                             50000        201     100000
       102 e2                             60000        201     160000
       103 e3                             28000        201     188000
       104 e4                             20000        202      20000
       106 e6                             45000        202      65000
       105 e5                             65000        202     130000
       108 e8                             23000        203      23000
       107 e7                             45000        203      68000
       109 e9                             85000        203     153000

10 rows selected.
```

select eno, ename, salary, min(hiredate)
KEEP (DENSE_RANK FIRST ORDER BY hiredate) OVER
(PARTITION BY ENO) FROM employee1;

```
SQL> select eno, ename, salary, min(hiredate)
  2  KEEP (DENSE_RANK FIRST ORDER BY hiredate) OVER
  3  (PARTITION BY ENO) FROM employee1;

       ENO ENAME                     SALARY MIN(HIRED
---------- -------------------- ---------- ---------
       101 e1                        50000 15-JAN-22
       102 e2                        60000 01-JUN-21
       103 e3                        55000 20-NOV-20
       104 e4                        70000 10-MAR-23
       105 e5                        48000 05-MAY-24
       106 e6                        40000 15-JAN-22
       107 e7                        61000 01-JUN-21
       108 e8                        60000 20-NOV-20
       109 e9                        60000 10-MAR-23
       110 e10                       80000 05-MAY-24

10 rows selected.
```