```
SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  FIRST_VALUE(ENAME)
  6  OVER
  7  (
  8  ORDER BY SAL DESC
  9  ) FIRST_VALUE
 10  FROM EMP
 11  ORDER BY DEPTNO,SAL DESC ,ENAME DESC;

ENAME   DEPTNO   SAL FIRST_VALU
------  ------  ----- ----------
KING        10  5000 KING
CLARK       10  2450 KING
MILLER      10  1300 KING
SCOTT       20  3000 KING
FORD        20  3000 KING
JONES       20  2975 KING
ADAMS       20  1100 KING
SMITH       20   800 KING
BLAKE       30  2850 KING
ALLEN       30  1600 KING
TURNER      30  1500 KING

ENAME   DEPTNO   SAL FIRST_VALU
------  ------  ----- ----------
WARD        30  1250 KING
MARTIN      30  1250 KING
JAMES       30   950 KING

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  FIRST_VALUE(ENAME)
  6  OVER
  7  (
  8  ORDER BY SAL DESC
  9  ) FIRST_VALUE,
 10  LAST_VALUE(ENAME)
 11  OVER
 12  (
 13  ORDER BY SAL DESC
 14  ) LAST_VALUE
 15  FROM EMP
 16  ORDER BY DEPTNO,SAL DESC ,ENAME DESC;

ENAME   DEPTNO   SAL FIRST_VALU LAST_VALUE
------  ------  ----- ---------- ----------
KING        10  5000 KING       KING
```

```
CLARK      10  2450 KING      CLARK
MILLER     10  1300 KING      MILLER
SCOTT      20  3000 KING      SCOTT
FORD       20  3000 KING      SCOTT
JONES      20  2975 KING      JONES
ADAMS      20  1100 KING      ADAMS
SMITH      20   800 KING      SMITH
BLAKE      30  2850 KING      BLAKE
ALLEN      30  1600 KING      ALLEN
TURNER     30  1500 KING      TURNER

ENAME   DEPTNO   SAL FIRST_VALU LAST_VALUE
------  ------ ----- ---------- ----------
WARD       30  1250 KING      WARD
MARTIN     30  1250 KING      WARD
JAMES      30   950 KING      JAMES

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  FIRST_VALUE(ENAME)
  6  OVER
  7  (
  8  PARTITION BY DEPTNO
  9  ORDER BY SAL DESC
 10  ) FIRST_VALUE,
 11  LAST_VALUE(ENAME)
 12  OVER
 13  (
 14  PARTITION BY DEPTNO
 15  ORDER BY SAL DESC
 16  ) LAST_VALUE
 17  FROM EMP
 18  ORDER BY DEPTNO,SAL DESC, ENAME DESC;

ENAME   DEPTNO   SAL FIRST_VALU LAST_VALUE
------  ------ ----- ---------- ----------
KING       10  5000 KING      KING
CLARK      10  2450 KING      CLARK
MILLER     10  1300 KING      MILLER
SCOTT      20  3000 SCOTT     FORD
FORD       20  3000 SCOTT     FORD
JONES      20  2975 SCOTT     JONES
ADAMS      20  1100 SCOTT     ADAMS
SMITH      20   800 SCOTT     SMITH
BLAKE      30  2850 BLAKE     BLAKE
ALLEN      30  1600 BLAKE     ALLEN
TURNER     30  1500 BLAKE     TURNER

ENAME   DEPTNO   SAL FIRST_VALU LAST_VALUE
------  ------ ----- ---------- ----------
```

```
WARD        30  1250 BLAKE       MARTIN
MARTIN      30  1250 BLAKE       MARTIN
JAMES       30   950 BLAKE       JAMES

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  LAST_VALUE(ENAME)
  6  OVER
  7  (
  8  ORDER BY SAL ASC
  9  ROWS BETWEEN
 10  UNBOUNDED PRECEDING AND
 11  UNBOUNDED FOLLOWING
 12  ) LAST_VALUE
 13  FROM EMP;

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

ENAME   DEPTNO   SAL LAST_VALUE
------  ------  ----- ----------
SCOTT       20  3000 KING
FORD        20  3000 KING
KING        10  5000 KING

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  FIRST_VALUE(ENAME)
  6  OVER
  7  (
  8  ORDER BY SAL ASC
  9  ) FIRST_VALUE,
 10  LAST_VALUE(ENAME)
 11  OVER
 12  (
```

```
 13  ORDER BY SAL ASC
 14  ROWS BETWEEN
 15  UNBOUNDED PRECEDING AND
 16  UNBOUNDED FOLLOWING
 17  ) LAST_VALUE
 18  FROM EMP;

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

ENAME   DEPTNO    SAL FIRST_VALU LAST_VALUE
------  ------  ----- ---------- ----------
FORD        20   3000 SMITH      KING
SCOTT       20   3000 SMITH      KING
KING        10   5000 SMITH      KING

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  FIRST_VALUE(ENAME)
  6  OVER
  7  (
  8  ORDER BY SAL ASC
  9  ROWS BETWEEN
 10  UNBOUNDED PRECEDING AND
 11  UNBOUNDED FOLLOWING
 12  ) FIRST_VALUE,
 13  LAST_VALUE(ENAME)
 14  OVER
 15  (
 16  ORDER BY SAL ASC
 17  ROWS BETWEEN
 18  UNBOUNDED PRECEDING AND
 19  UNBOUNDED FOLLOWING
 20  ) LAST_VALUE
 21  FROM EMP;

ENAME   DEPTNO    SAL FIRST_VALU LAST_VALUE
------  ------  ----- ---------- ----------
SMITH       20    800 SMITH      KING
```

```
JAMES       30    950 SMITH       KING
ADAMS       20   1100 SMITH       KING
WARD        30   1250 SMITH       KING
MARTIN      30   1250 SMITH       KING
MILLER      10   1300 SMITH       KING
TURNER      30   1500 SMITH       KING
ALLEN       30   1600 SMITH       KING
CLARK       10   2450 SMITH       KING
BLAKE       30   2850 SMITH       KING
JONES       20   2975 SMITH       KING

ENAME   DEPTNO    SAL FIRST_VALU LAST_VALUE
------  ------  ----- ---------- ----------
SCOTT       20   3000 SMITH       KING
FORD        20   3000 SMITH       KING
KING        10   5000 SMITH       KING

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  HIREDATE,
  6  FIRST_VALUE(HIREDATE)
  7  OVER
  8  (
  9  ORDER BY HIREDATE ASC
 10  ) FIRST_VALUE,
 11  LAST_VALUE(HIREDATE)
 12  OVER
 13  (
 14  ORDER BY HIREDATE ASC
 15  ROWS BETWEEN
 16  UNBOUNDED PRECEDING AND
 17  UNBOUNDED FOLLOWING
 18  ) LAST_VALUE
 19  FROM EMP;

ENAME   DEPTNO    SAL HIREDATE  FIRST_VAL LAST_VALU
------  ------  ----- --------- --------- ---------
SMITH       20    800 17-DEC-80 17-DEC-80 23-MAY-87
ALLEN       30   1600 20-FEB-81 17-DEC-80 23-MAY-87
WARD        30   1250 22-FEB-81 17-DEC-80 23-MAY-87
JONES       20   2975 02-APR-81 17-DEC-80 23-MAY-87
BLAKE       30   2850 01-MAY-81 17-DEC-80 23-MAY-87
CLARK       10   2450 09-JUN-81 17-DEC-80 23-MAY-87
TURNER      30   1500 08-SEP-81 17-DEC-80 23-MAY-87
MARTIN      30   1250 28-SEP-81 17-DEC-80 23-MAY-87
KING        10   5000 17-NOV-81 17-DEC-80 23-MAY-87
JAMES       30    950 03-DEC-81 17-DEC-80 23-MAY-87
FORD        20   3000 03-DEC-81 17-DEC-80 23-MAY-87

ENAME   DEPTNO    SAL HIREDATE  FIRST_VAL LAST_VALU
```

```
           ------ ------ ----- --------- --------- ---------
MILLER       10   1300 23-JAN-82 17-DEC-80 23-MAY-87
SCOTT        20   3000 19-APR-87 17-DEC-80 23-MAY-87
ADAMS        20   1100 23-MAY-87 17-DEC-80 23-MAY-87

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  HIREDATE,
  6  FIRST_VALUE(HIREDATE)
  7  OVER
  8  (
  9  ORDER BY HIREDATE ASC
 10  ROWS BETWEEN
 11  UNBOUNDED PRECEDING AND
 12  UNBOUNDED FOLLOWING
 13  ) FIRST_VALUE,
 14  LAST_VALUE(HIREDATE)
 15  OVER
 16  (
 17  ORDER BY HIREDATE ASC
 18  ROWS BETWEEN
 19  UNBOUNDED PRECEDING AND
 20  UNBOUNDED FOLLOWING
 21  ) LAST_VALUE
 22  FROM EMP;

ENAME   DEPTNO   SAL HIREDATE  FIRST_VAL LAST_VALU
------ ------ ----- --------- --------- ---------
SMITH      20    800 17-DEC-80 17-DEC-80 23-MAY-87
ALLEN      30   1600 20-FEB-81 17-DEC-80 23-MAY-87
WARD       30   1250 22-FEB-81 17-DEC-80 23-MAY-87
JONES      20   2975 02-APR-81 17-DEC-80 23-MAY-87
BLAKE      30   2850 01-MAY-81 17-DEC-80 23-MAY-87
CLARK      10   2450 09-JUN-81 17-DEC-80 23-MAY-87
TURNER     30   1500 08-SEP-81 17-DEC-80 23-MAY-87
MARTIN     30   1250 28-SEP-81 17-DEC-80 23-MAY-87
KING       10   5000 17-NOV-81 17-DEC-80 23-MAY-87
JAMES      30    950 03-DEC-81 17-DEC-80 23-MAY-87
FORD       20   3000 03-DEC-81 17-DEC-80 23-MAY-87

ENAME   DEPTNO   SAL HIREDATE  FIRST_VAL LAST_VALU
------ ------ ----- --------- --------- ---------
MILLER     10   1300 23-JAN-82 17-DEC-80 23-MAY-87
SCOTT      20   3000 19-APR-87 17-DEC-80 23-MAY-87
ADAMS      20   1100 23-MAY-87 17-DEC-80 23-MAY-87

14 rows selected.

SQL> SELECT
  2  ENAME,
```

```
  3  DEPTNO,
  4  SAL,
  5  HIREDATE,
  6  FIRST_VALUE(HIREDATE)
  7  OVER
  8  (
  9  ORDER BY HIREDATE DESC
 10  ROWS BETWEEN
 11  UNBOUNDED PRECEDING AND
 12  UNBOUNDED FOLLOWING
 13  ) FIRST_VALUE,
 14  LAST_VALUE(HIREDATE)
 15  OVER
 16  (
 17  ORDER BY HIREDATE DESC
 18  ROWS BETWEEN
 19  UNBOUNDED PRECEDING AND
 20  UNBOUNDED FOLLOWING
 21  ) LAST_VALUE,
 22  FIRST_VALUE(HIREDATE)
 23  OVER
 24  (
 25  ORDER BY HIREDATE DESC
 26  ROWS BETWEEN
 27  UNBOUNDED PRECEDING AND
 28  UNBOUNDED FOLLOWING
 29  ) -
 30  LAST_VALUE(HIREDATE)
 31  OVER
 32  (
 33  ORDER BY HIREDATE DESC
 34  ROWS BETWEEN
 35  UNBOUNDED PRECEDING AND
 36  UNBOUNDED FOLLOWING
 37  ) NDAYS
 38  FROM EMP;
```

```
ENAME   DEPTNO    SAL HIREDATE   FIRST_VAL LAST_VALU      NDAYS
------  ------  ----- ---------  --------- ---------  ----------
ADAMS       20   1100 23-MAY-87  23-MAY-87 17-DEC-80       2348
SCOTT       20   3000 19-APR-87  23-MAY-87 17-DEC-80       2348
MILLER      10   1300 23-JAN-82  23-MAY-87 17-DEC-80       2348
JAMES       30    950 03-DEC-81  23-MAY-87 17-DEC-80       2348
FORD        20   3000 03-DEC-81  23-MAY-87 17-DEC-80       2348
KING        10   5000 17-NOV-81  23-MAY-87 17-DEC-80       2348
MARTIN      30   1250 28-SEP-81  23-MAY-87 17-DEC-80       2348
TURNER      30   1500 08-SEP-81  23-MAY-87 17-DEC-80       2348
CLARK       10   2450 09-JUN-81  23-MAY-87 17-DEC-80       2348
BLAKE       30   2850 01-MAY-81  23-MAY-87 17-DEC-80       2348
JONES       20   2975 02-APR-81  23-MAY-87 17-DEC-80       2348

ENAME   DEPTNO    SAL HIREDATE   FIRST_VAL LAST_VALU      NDAYS
------  ------  ----- ---------  --------- ---------  ----------
WARD        30   1250 22-FEB-81  23-MAY-87 17-DEC-80       2348
```

```
ALLEN       30  1600 20-FEB-81 23-MAY-87 17-DEC-80      2348
SMITH       20   800 17-DEC-80 23-MAY-87 17-DEC-80      2348

14 rows selected.

SQL> SELECT
  2  ENAME,
  3  DEPTNO,
  4  SAL,
  5  HIREDATE,
  6  FIRST_VALUE(HIREDATE)
  7  OVER
  8  (
  9  ORDER BY HIREDATE DESC
 10  ROWS BETWEEN
 11  UNBOUNDED PRECEDING AND
 12  UNBOUNDED FOLLOWING
 13  ) FIRST_VALUE,
 14  LAST_VALUE(HIREDATE)
 15  OVER
 16  (
 17  ORDER BY HIREDATE DESC
 18  ROWS BETWEEN
 19  UNBOUNDED PRECEDING AND
 20  UNBOUNDED FOLLOWING
 21  ) LAST_VALUE,
 22  FIRST_VALUE(HIREDATE)
 23  OVER
 24  (
 25  ORDER BY HIREDATE DESC
 26  ROWS BETWEEN
 27  UNBOUNDED PRECEDING AND
 28  UNBOUNDED FOLLOWING
 29  ) -
 30  LAST_VALUE(HIREDATE)
 31  OVER
 32  (
 33  ORDER BY HIREDATE DESC
 34  ROWS BETWEEN
 35  UNBOUNDED PRECEDING AND
 36  UNBOUNDED FOLLOWING
 37  ) NDAYS,
 38  TRUNC
 39  (
 40  MONTHS_BETWEEN
 41  (
 42  FIRST_VALUE(HIREDATE)
 43  OVER
 44  (
 45  ORDER BY HIREDATE DESC
 46  ROWS BETWEEN
 47  UNBOUNDED PRECEDING AND
 48  UNBOUNDED FOLLOWING
 49  ),
```

```
 50  LAST_VALUE(HIREDATE)
 51  OVER
 52  (
 53  ORDER BY HIREDATE DESC
 54  ROWS BETWEEN
 55  UNBOUNDED PRECEDING AND
 56  UNBOUNDED FOLLOWING
 57  )
 58  )/12
 59  ) NYEARS
 60  FROM EMP;
```

ENAME	DEPTNO	SAL	HIREDATE	FIRST_VAL	LAST_VALU	NDAYS	NYEARS
ADAMS	20	1100	23-MAY-87	23-MAY-87	17-DEC-80	2348	6
SCOTT	20	3000	19-APR-87	23-MAY-87	17-DEC-80	2348	6
MILLER	10	1300	23-JAN-82	23-MAY-87	17-DEC-80	2348	6
JAMES	30	950	03-DEC-81	23-MAY-87	17-DEC-80	2348	6
FORD	20	3000	03-DEC-81	23-MAY-87	17-DEC-80	2348	6
KING	10	5000	17-NOV-81	23-MAY-87	17-DEC-80	2348	6
MARTIN	30	1250	28-SEP-81	23-MAY-87	17-DEC-80	2348	6
TURNER	30	1500	08-SEP-81	23-MAY-87	17-DEC-80	2348	6
CLARK	10	2450	09-JUN-81	23-MAY-87	17-DEC-80	2348	6
BLAKE	30	2850	01-MAY-81	23-MAY-87	17-DEC-80	2348	6
JONES	20	2975	02-APR-81	23-MAY-87	17-DEC-80	2348	6

ENAME	DEPTNO	SAL	HIREDATE	FIRST_VAL	LAST_VALU	NDAYS	NYEARS
WARD	30	1250	22-FEB-81	23-MAY-87	17-DEC-80	2348	6
ALLEN	30	1600	20-FEB-81	23-MAY-87	17-DEC-80	2348	6
SMITH	20	800	17-DEC-80	23-MAY-87	17-DEC-80	2348	6

```
14 rows selected.

SQL> SELECT
  2  EMPNO,
  3  DEPTNO,
  4  HIREDATE,
  5  FIRST_VALUE(HIREDATE)
  6  OVER
  7  (
  8  PARTITION BY DEPTNO
  9  ORDER BY HIREDATE
 10  ) FIRST_DATE,
 11  HIREDATE-FIRST_VALUE(HIREDATE)
 12        OVER
 13        (
 14         PARTITION BY DEPTNO
 15         ORDER BY HIREDATE
 16        ) NDAYS
 17  FROM EMP
 18  ORDER BY DEPTNO,NDAYS;
```

```
EMPNO DEPTNO HIREDATE  FIRST_DAT      NDAYS
```

```
----- ------ --------- --------- ----------
 7782     10 09-JUN-81 09-JUN-81          0
 7839     10 17-NOV-81 09-JUN-81        161
 7934     10 23-JAN-82 09-JUN-81        228
 7369     20 17-DEC-80 17-DEC-80          0
 7566     20 02-APR-81 17-DEC-80        106
 7902     20 03-DEC-81 17-DEC-80        351
 7788     20 19-APR-87 17-DEC-80       2314
 7876     20 23-MAY-87 17-DEC-80       2348
 7499     30 20-FEB-81 20-FEB-81          0
 7521     30 22-FEB-81 20-FEB-81          2
 7698     30 01-MAY-81 20-FEB-81         70

EMPNO DEPTNO HIREDATE  FIRST_DAT    NDAYS
----- ------ --------- --------- ----------
 7844     30 08-SEP-81 20-FEB-81        200
 7654     30 28-SEP-81 20-FEB-81        220
 7900     30 03-DEC-81 20-FEB-81        286

14 rows selected.

SQL> --Applying window Clause--
SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ) RunSal
 10  FROM  EMP;

EMPNO DEPTNO   SAL    RUNSAL
----- ------ ----- ----------
 7839     10  5000       5000
 7788     20  3000       8000
 7902     20  3000      11000
 7566     20  2975      13975
 7698     30  2850      16825
 7782     10  2450      19275
 7499     30  1600      20875
 7844     30  1500      22375
 7934     10  1300      23675
 7521     30  1250      24925
 7654     30  1250      26175

EMPNO DEPTNO   SAL    RUNSAL
----- ------ ----- ----------
 7876     20  1100      27275
 7900     30   950      28225
 7369     20   800      29025

14 rows selected.
```

```
SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS 2 PRECEDING
 10  ) RunSal
 11  FROM  EMP;

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7839     10  5000       5000
 7788     20  3000       8000
 7902     20  3000      11000
 7566     20  2975       8975
 7698     30  2850       8825
 7782     10  2450       8275
 7499     30  1600       6900
 7844     30  1500       5550
 7934     10  1300       4400
 7521     30  1250       4050
 7654     30  1250       3800

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7876     20  1100       3600
 7900     30   950       3300
 7369     20   800       2850

14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS 1 PRECEDING
 10  ) RunSal
 11  FROM  EMP;

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7839     10  5000       5000
 7788     20  3000       8000
 7902     20  3000       6000
 7566     20  2975       5975
 7698     30  2850       5825
```

```
 7782      10   2450          5300
 7499      30   1600          4050
 7844      30   1500          3100
 7934      10   1300          2800
 7521      30   1250          2550
 7654      30   1250          2500


EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7876      20   1100          2350
 7900      30    950          2050
 7369      20    800          1750


14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS 0 PRECEDING
 10  ) RunSal
 11  FROM  EMP;

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7839      10   5000          5000
 7788      20   3000          3000
 7902      20   3000          3000
 7566      20   2975          2975
 7698      30   2850          2850
 7782      10   2450          2450
 7499      30   1600          1600
 7844      30   1500          1500
 7934      10   1300          1300
 7521      30   1250          1250
 7654      30   1250          1250

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
 7876      20   1100          1100
 7900      30    950           950
 7369      20    800           800


14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
```

```
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS 0 FOLLOWING
 10  ) RunSal
 11  FROM  EMP;
ROWS 0 FOLLOWING
       *
ERROR at line 9:
ORA-00905: missing keyword


SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS 0 PRECEDING AND 1 FOLLOWING
 10  ) RunSal
 11  FROM  EMP;
ROWS 0 PRECEDING AND 1 FOLLOWING
                *
ERROR at line 9:
ORA-00907: missing right parenthesis


SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  0 PRECEDING AND
 11  1 FOLLOWING
 12  ) RunSal
 13  FROM  EMP;

EMPNO DEPTNO   SAL    RUNSAL
----- ------ ----- ----------
 7839     10  5000       8000
 7788     20  3000       6000
 7902     20  3000       5975
 7566     20  2975       5825
 7698     30  2850       5300
 7782     10  2450       4050
 7499     30  1600       3100
 7844     30  1500       2800
 7934     10  1300       2550
```

```
 7521     30  1250       2500
 7654     30  1250       2350

EMPNO DEPTNO   SAL    RUNSAL
----- ------ ----- ----------
 7876     20  1100       2050
 7900     30   950       1750
 7369     20   800        800

14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  0 PRECEDING AND
 11  1 FOLLOWING
 12  ) RunSal01,
 13  SUM(Sal)
 14  OVER
 15  (
 16  ORDER BY Sal  DESC , Empno
 17  ROWS BETWEEN
 18  0 PRECEDING AND
 19  2 FOLLOWING
 20  ) RunSal02,
 21  SUM(Sal)
 22  OVER
 23  (
 24  ORDER BY Sal  DESC , Empno
 25  ROWS BETWEEN
 26  0 PRECEDING AND
 27  3 FOLLOWING
 28  ) RunSal03,
 29  SUM(Sal)
 30  OVER
 31  (
 32  ORDER BY Sal  DESC , Empno
 33  ROWS BETWEEN
 34  0 PRECEDING AND
 35  4 FOLLOWING
 36  ) RunSal04
 37  FROM  EMP;

EMPNO DEPTNO   SAL  RUNSAL01   RUNSAL02   RUNSAL03   RUNSAL04
----- ------ ----- ---------- ---------- ---------- ----------
 7839     10  5000       8000      11000      13975      16825
 7788     20  3000       6000       8975      11825      14275
 7902     20  3000       5975       8825      11275      12875
```

```
    7566     20   2975       5825       8275       9875      11375
    7698     30   2850       5300       6900       8400       9700
    7782     10   2450       4050       5550       6850       8100
    7499     30   1600       3100       4400       5650       6900
    7844     30   1500       2800       4050       5300       6400
    7934     10   1300       2550       3800       4900       5850
    7521     30   1250       2500       3600       4550       5350
    7654     30   1250       2350       3300       4100       4100

EMPNO DEPTNO   SAL   RUNSAL01   RUNSAL02   RUNSAL03   RUNSAL04
----- ------ ----- ---------- ---------- ---------- ----------
    7876     20   1100       2050       2850       2850       2850
    7900     30    950       1750       1750       1750       1750
    7369     20    800        800        800        800        800

14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  UNBOUNDED PRECEDING AND
 11  UNBOUNDED FOLLOWING
 12  ) RunSal
 13  FROM  EMP;

EMPNO DEPTNO   SAL     RUNSAL
----- ------ ----- ----------
    7839     10  5000      29025
    7788     20  3000      29025
    7902     20  3000      29025
    7566     20  2975      29025
    7698     30  2850      29025
    7782     10  2450      29025
    7499     30  1600      29025
    7844     30  1500      29025
    7934     10  1300      29025
    7521     30  1250      29025
    7654     30  1250      29025

EMPNO DEPTNO   SAL     RUNSAL
----- ------ ----- ----------
    7876     20  1100      29025
    7900     30   950      29025
    7369     20   800      29025

14 rows selected.

SQL> SELECT
```

```
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  0 PRECEDING AND
 11  UNBOUNDED FOLLOWING
 12  ) RunSal
 13  FROM  EMP;

EMPNO DEPTNO   SAL     RUNSAL
----- ------ ----- ----------
 7839     10  5000      29025
 7788     20  3000      24025
 7902     20  3000      21025
 7566     20  2975      18025
 7698     30  2850      15050
 7782     10  2450      12200
 7499     30  1600       9750
 7844     30  1500       8150
 7934     10  1300       6650
 7521     30  1250       5350
 7654     30  1250       4100

EMPNO DEPTNO   SAL     RUNSAL
----- ------ ----- ----------
 7876     20  1100       2850
 7900     30   950       1750
 7369     20   800        800

14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  1 PRECEDING AND
 11  UNBOUNDED FOLLOWING
 12  ) RunSal
 13  FROM  EMP;

EMPNO DEPTNO   SAL     RUNSAL
----- ------ ----- ----------
 7839     10  5000      29025
 7788     20  3000      29025
 7902     20  3000      24025
```

```
    7566        20   2975         21025
    7698        30   2850         18025
    7782        10   2450         15050
    7499        30   1600         12200
    7844        30   1500          9750
    7934        10   1300          8150
    7521        30   1250          6650
    7654        30   1250          5350


EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
    7876        20   1100          4100
    7900        30    950          2850
    7369        20    800          1750


14 rows selected.

SQL> SELECT
  2  Empno,
  3  Deptno,
  4  Sal,
  5  SUM(Sal)
  6  OVER
  7  (
  8  ORDER BY Sal  DESC , Empno
  9  ROWS BETWEEN
 10  1 PRECEDING AND
 11  1 FOLLOWING
 12  ) RunSal
 13  FROM  EMP;

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
    7839        10   5000          8000
    7788        20   3000         11000
    7902        20   3000          8975
    7566        20   2975          8825
    7698        30   2850          8275
    7782        10   2450          6900
    7499        30   1600          5550
    7844        30   1500          4400
    7934        10   1300          4050
    7521        30   1250          3800
    7654        30   1250          3600

EMPNO DEPTNO   SAL      RUNSAL
----- ------ ----- ----------
    7876        20   1100          3300
    7900        30    950          2850
    7369        20    800          1750

14 rows selected.

SQL> SPOOL OFF
```