

create user jdbctest identified by jdbctest;

grant connect, resource to jdbctest;

start c:/unico/data.sql

select * from emp;

| | EMPNO | ENAME | JOB | MGR | HIREDATE | SAL | COMM | DEPTNO |
|----|-------|--------|-----------|--------|----------|------|--------|--------|
| 1 | 7839 | KING | PRESIDENT | (null) | 81/11/17 | 5000 | (null) | 10 |
| 2 | 7698 | BLAKE | MANAGER | 7839 | 81/05/01 | 2850 | (null) | 30 |
| 3 | 7782 | CLARK | MANAGER | 7839 | 81/05/09 | 2450 | (null) | 10 |
| 4 | 7566 | JONES | MANAGER | 7839 | 81/04/01 | 2975 | (null) | 20 |
| 5 | 7654 | MARTIN | SALESMAN | 7698 | 81/09/10 | 1250 | 1400 | 30 |
| 6 | 7499 | ALLEN | SALESMAN | 7698 | 81/02/11 | 1600 | 300 | 30 |
| 7 | 7844 | TURNER | SALESMAN | 7698 | 81/08/21 | 1500 | 0 | 30 |
| 8 | 7900 | JAMES | CLERK | 7698 | 81/12/11 | 950 | (null) | 30 |
| 9 | 7521 | WARD | SALESMAN | 7698 | 81/02/23 | 1250 | 500 | 30 |
| 10 | 7902 | FORD | ANALYST | 7566 | 81/12/11 | 3000 | (null) | 20 |
| 11 | 7369 | SMITH | CLERK | 7902 | 80/12/11 | 800 | (null) | 20 |
| 12 | 7788 | SCOTT | ANALYST | 7566 | 82/12/22 | 3000 | (null) | 20 |
| 13 | 7876 | ADAMS | CLERK | 7788 | 83/01/15 | 1100 | (null) | 20 |
| 14 | 7934 | MILLER | CLERK | 7782 | 82/01/11 | 1300 | (null) | 10 |

SELECT **ename**, **REGEXP_REPLACE(sal, '[0-3]', '*')** **as** **SALARY**
FROM **emp;**

| | ENAME | SALARY |
|----|--------|--------|
| 1 | KING | 5*** |
| 2 | BLAKE | *85* |
| 3 | CLARK | *45* |
| 4 | JONES | *975 |
| 5 | MARTIN | **5* |
| 6 | ALLEN | *6** |
| 7 | TURNER | *5** |
| 8 | JAMES | 95* |
| 9 | WARD | **5* |
| 10 | FORD | **** |
| 11 | SMITH | 8** |
| 12 | SCOTT | **** |
| 13 | ADAMS | **** |
| 14 | MILLER | **** |

SELECT **ename**, **job**, **sal**, **RANK() over (ORDER BY sal DESC)** 순위

FROM emp
WHERE job in ('ANALYST','MANAGER');

| | ENAME | JOB | SAL | 순위 |
|----|--------|-----------|------|----|
| 1 | KING | PRESIDENT | 5000 | 1 |
| 2 | SCOTT | ANALYST | 3000 | 2 |
| 3 | FORD | ANALYST | 3000 | 2 |
| 4 | JONES | MANAGER | 2975 | 4 |
| 5 | BLAKE | MANAGER | 2850 | 5 |
| 6 | CLARK | MANAGER | 2450 | 6 |
| 7 | ALLEN | SALESMAN | 1600 | 7 |
| 8 | TURNER | SALESMAN | 1500 | 8 |
| 9 | MILLER | CLERK | 1300 | 9 |
| 10 | WARD | SALESMAN | 1250 | 10 |
| 11 | MARTIN | SALESMAN | 1250 | 10 |
| 12 | ADAMS | CLERK | 1100 | 12 |
| 13 | JAMES | CLERK | 950 | 13 |
| 14 | SMITH | CLERK | 800 | 14 |

SELECT **ename, job, sal, RANK() over (ORDER BY sal DESC)** 순위
FROM emp
WHERE job in ('ANALYST','MANAGER');

| | ENAME | JOB | SAL | 순위 |
|---|-------|---------|------|----|
| 1 | FORD | ANALYST | 3000 | 1 |
| 2 | SCOTT | ANALYST | 3000 | 1 |
| 3 | JONES | MANAGER | 2975 | 3 |
| 4 | BLAKE | MANAGER | 2850 | 4 |
| 5 | CLARK | MANAGER | 2450 | 5 |

SELECT **ename, sal, job, RANK() over (PARTITION BY job**
ORDER BY sal DESC) as 순위
FROM emp;

| | ENAME | SAL | JOB | 순위 |
|----|--------|------|-----------|----|
| 1 | SCOTT | 3000 | ANALYST | 1 |
| 2 | FORD | 3000 | ANALYST | 1 |
| 3 | MILLER | 1300 | CLERK | 1 |
| 4 | ADAMS | 1100 | CLERK | 2 |
| 5 | JAMES | 950 | CLERK | 3 |
| 6 | SMITH | 800 | CLERK | 4 |
| 7 | JONES | 2975 | MANAGER | 1 |
| 8 | BLAKE | 2850 | MANAGER | 2 |
| 9 | CLARK | 2450 | MANAGER | 3 |
| 10 | KING | 5000 | PRESIDENT | 1 |
| 11 | ALLEN | 1600 | SALESMAN | 1 |
| 12 | TURNER | 1500 | SALESMAN | 2 |
| 13 | MARTIN | 1250 | SALESMAN | 3 |
| 14 | WARD | 1250 | SALESMAN | 3 |

**SELECT job, ename, sal, DENSE_RANK() OVER (PARTITION BY job
ORDER BY sal DESC) 순위**

FROM emp

**WHERE hiredate BETWEEN to_date('1981/01/01','RRRR/MM/DD')
AND to_date('1981/12/31','RRRR/MM/DD');**

| | JOB | ENAME | SAL | 순위 |
|----|-----------|--------|------|----|
| 1 | ANALYST | FORD | 3000 | 1 |
| 2 | CLERK | JAMES | 950 | 1 |
| 3 | MANAGER | JONES | 2975 | 1 |
| 4 | MANAGER | BLAKE | 2850 | 2 |
| 5 | MANAGER | CLARK | 2450 | 3 |
| 6 | PRESIDENT | KING | 5000 | 1 |
| 7 | SALESMAN | ALLEN | 1600 | 1 |
| 8 | SALESMAN | TURNER | 1500 | 2 |
| 9 | SALESMAN | WARD | 1250 | 3 |
| 10 | SALESMAN | MARTIN | 1250 | 3 |

**SELECT ename, job, sal, RANK() over (ORDER BY sal DESC) AS RANK,
DENSE_RANK() over (ORDER BY sal DESC) AS**

DENSE_RANK

FROM emp

WHERE job in ('ANALYST','MANAGER');

| | ENAME | JOB | SAL | RANK | DENSE_RANK |
|---|-------|---------|------|------|------------|
| 1 | FORD | ANALYST | 3000 | 1 | 1 |
| 2 | SCOTT | ANALYST | 3000 | 1 | 1 |
| 3 | JONES | MANAGER | 2975 | 3 | 2 |
| 4 | BLAKE | MANAGER | 2850 | 4 | 3 |
| 5 | CLARK | MANAGER | 2450 | 5 | 4 |

SELECT DENSE_RANK(2975) within group (ORDER BY sal DESC) 순위
FROM emp;

| 순위 |
|-----|
| 1 3 |

SELECT DENSE_RANK('81/11/17') within group (ORDER BY hiredate ASC) 순위
FROM emp;

| 순위 |
|-----|
| 1 9 |

SELECT **ename as 이름, EXTRACT(year from hiredate) as 년도,**
EXTRACT(MONTH from hiredate) as 달,
EXTRACT(day from hiredate) as 요일

FROM emp;

| | 이름 | 년도 | 달 | 요일 |
|----|--------|------|----|----|
| 1 | KING | 1981 | 11 | 17 |
| 2 | BLAKE | 1981 | 5 | 1 |
| 3 | CLARK | 1981 | 5 | 9 |
| 4 | JONES | 1981 | 4 | 1 |
| 5 | MARTIN | 1981 | 9 | 10 |
| 6 | ALLEN | 1981 | 2 | 11 |
| 7 | TURNER | 1981 | 8 | 21 |
| 8 | JAMES | 1981 | 12 | 11 |
| 9 | WARD | 1981 | 2 | 23 |
| 10 | FORD | 1981 | 12 | 11 |
| 11 | SMITH | 1980 | 12 | 11 |
| 12 | SCOTT | 1982 | 12 | 22 |
| 13 | ADAMS | 1983 | 1 | 15 |
| 14 | MILLER | 1982 | 1 | 11 |

SELECT **ename, sal, RANK() over (order by sal desc) as RANK ,**
DENSE_RANK() over (order by sal desc) as DENSE_RANK,
CUME_DIST() over (order by sal desc) as CUM_DIST

FROM emp;

| | ENAME | SAL | RANK | DENSE_RANK | CUM_DIST |
|----|--------|------|------|------------|--|
| 1 | KING | 5000 | 1 | 1 | 0.0714285714285714285714285714285714285714 |
| 2 | SCOTT | 3000 | 2 | 2 | 0.2142857142857142857142857142857142857143 |
| 3 | FORD | 3000 | 2 | 2 | 0.2142857142857142857142857142857142857143 |
| 4 | JONES | 2975 | 4 | 3 | 0.2857142857142857142857142857142857142857 |
| 5 | BLAKE | 2850 | 5 | 4 | 0.3571428571428571428571428571428571428571 |
| 6 | CLARK | 2450 | 6 | 5 | 0.4285714285714285714285714285714285714286 |
| 7 | ALLEN | 1600 | 7 | 6 | 0.5 |
| 8 | TURNER | 1500 | 8 | 7 | 0.5714285714285714285714285714285714285714 |
| 9 | MILLER | 1300 | 9 | 8 | 0.6428571428571428571428571428571428571429 |
| 10 | WARD | 1250 | 10 | 9 | 0.7857142857142857142857142857142857142857 |
| 11 | MARTIN | 1250 | 10 | 9 | 0.7857142857142857142857142857142857142857 |
| 12 | ADAMS | 1100 | 12 | 10 | 0.8571428571428571428571428571428571428571 |
| 13 | JAMES | 950 | 13 | 11 | 0.9285714285714285714285714285714285714286 |
| 14 | SMITH | 800 | 14 | 12 | 1 |

```
SELECT job, ename, sal, RANK() over ( partition by job
                                     order by sal desc) as RANK ,
       CUME_DIST() over ( partition by job
                          order by sal desc) as CUM_DIST
```

FROM emp;

[illegible]

```
SELECT deptno, LISTAGG(ename,',') within group (order by ename) as  
EMPLOYEE  
FROM emp  
GROUP BY deptno;
```

| DEPTNO | EMPLOYEE |
|--------|---|
| 1 | 10 CLARK,KING,MILLER |
| 2 | 20 ADAMS,FORD,JONES,SCOTT,SMITH |
| 3 | 30 ALLEN,BLAKE,JAMES,MARTIN,TURNER,WARD |

```

SELECT job, LISTAGG(ename,',') within group (ORDER BY ename desc) as
employee
FROM emp
GROUP BY job;

```

| JOB | EMPLOYEE |
|-------------|--------------------------|
| 1 ANALYST | SCOTT,FORD |
| 2 CLERK | SMITH,MILLER,JAMES,ADAMS |
| 3 MANAGER | JONES,CLARK,BLAKE |
| 4 PRESIDENT | KING |
| 5 SALESMAN | WARD,TURNER,MARTIN,ALLEN |

```

SELECT job,
       LISTAGG(ename||'('||sal||')',',') within group (ORDER BY ename asc) as
employee
FROM emp
GROUP BY job;

```

| JOB | EMPLOYEE |
|-------------|--|
| 1 ANALYST | FORD(3000),SCOTT(3000) |
| 2 CLERK | ADAMS(1100),JAMES(950),MILLER(1300),SMITH(800) |
| 3 MANAGER | BLAKE(2850),CLARK(2450),JONES(2975) |
| 4 PRESIDENT | KING(5000) |
| 5 SALESMAN | ALLEN(1600),MARTIN(1250),TURNER(1500),WARD(1250) |

```

SELECT empno, ename, sal,
       LAG(sal,1) over (order by sal asc) "전 행의 sal값",
       LEAD(sal,1) over (order by sal asc) "다음 행의 sal값"
FROM emp;

```

| EMPNO | ENAME | SAL | 전 행의 sal값 | 다음 행의 sal값 |
|-------|-------------|------|-----------|------------|
| 1 | 7369 SMITH | 800 | (null) | 950 |
| 2 | 7900 JAMES | 950 | 800 | 1100 |
| 3 | 7876 ADAMS | 1100 | 950 | 1250 |
| 4 | 7521 WARD | 1250 | 1100 | 1250 |
| 5 | 7654 MARTIN | 1250 | 1250 | 1300 |
| 6 | 7934 MILLER | 1300 | 1250 | 1500 |
| 7 | 7844 TURNER | 1500 | 1300 | 1600 |
| 8 | 7499 ALLEN | 1600 | 1500 | 2450 |
| 9 | 7782 CLARK | 2450 | 1600 | 2850 |
| 10 | 7698 BLAKE | 2850 | 2450 | 2975 |
| 11 | 7566 JONES | 2975 | 2850 | 3000 |
| 12 | 7902 FORD | 3000 | 2975 | 3000 |
| 13 | 7788 SCOTT | 3000 | 3000 | 5000 |
| 14 | 7839 KING | 5000 | 3000 | (null) |

SELECT empno, ename, hiredate,
 LAG(hiredate,1) over (order by hiredate asc) "전 행의 sal값",
 LEAD(hiredate,1) over (order by hiredate asc) "다음 행의 sal값"
FROM emp;

| EMPNO | ENAME | HIREDATE | 전 행의 sal값 | 다음 행의 sal값 |
|-------|-------------|----------|-----------|------------|
| 1 | 7369 SMITH | 80/12/11 | (null) | 81/02/11 |
| 2 | 7499 ALLEN | 81/02/11 | 80/12/11 | 81/02/23 |
| 3 | 7521 WARD | 81/02/23 | 81/02/11 | 81/04/01 |
| 4 | 7566 JONES | 81/04/01 | 81/02/23 | 81/05/01 |
| 5 | 7698 BLAKE | 81/05/01 | 81/04/01 | 81/05/09 |
| 6 | 7782 CLARK | 81/05/09 | 81/05/01 | 81/08/21 |
| 7 | 7844 TURNER | 81/08/21 | 81/05/09 | 81/09/10 |
| 8 | 7654 MARTIN | 81/09/10 | 81/08/21 | 81/11/17 |
| 9 | 7839 KING | 81/11/17 | 81/09/10 | 81/12/11 |
| 10 | 7900 JAMES | 81/12/11 | 81/11/17 | 81/12/11 |
| 11 | 7902 FORD | 81/12/11 | 81/12/11 | 82/01/11 |
| 12 | 7934 MILLER | 82/01/11 | 81/12/11 | 82/12/22 |
| 13 | 7788 SCOTT | 82/12/22 | 82/01/11 | 83/01/15 |
| 14 | 7876 ADAMS | 83/01/15 | 82/12/22 | (null) |

SELECT deptno, empno, ename, hiredate,
 LAG(hiredate,1) over (partition by deptno
 order by hiredate asc) "전 행의 sal값",
 LEAD(hiredate,1) over (partition by deptno
 order by hiredate asc) "다음 행의 sal값"
FROM emp;

| | DEPTNO | EMPNO | ENAME | HIREDATE | 전 행의 sal값 | 다음 행의 sal값 |
|----|--------|-------|--------|----------|-----------|------------|
| 1 | 10 | 7782 | CLARK | 81/05/09 | (null) | 81/11/17 |
| 2 | 10 | 7839 | KING | 81/11/17 | 81/05/09 | 82/01/11 |
| 3 | 10 | 7934 | MILLER | 82/01/11 | 81/11/17 | (null) |
| 4 | 20 | 7369 | SMITH | 80/12/11 | (null) | 81/04/01 |
| 5 | 20 | 7566 | JONES | 81/04/01 | 80/12/11 | 81/12/11 |
| 6 | 20 | 7902 | FORD | 81/12/11 | 81/04/01 | 82/12/22 |
| 7 | 20 | 7788 | SCOTT | 82/12/22 | 81/12/11 | 83/01/15 |
| 8 | 20 | 7876 | ADAMS | 83/01/15 | 82/12/22 | (null) |
| 9 | 30 | 7499 | ALLEN | 81/02/11 | (null) | 81/02/23 |
| 10 | 30 | 7521 | WARD | 81/02/23 | 81/02/11 | 81/05/01 |
| 11 | 30 | 7698 | BLAKE | 81/05/01 | 81/02/23 | 81/08/21 |
| 12 | 30 | 7844 | TURNER | 81/08/21 | 81/05/01 | 81/09/10 |
| 13 | 30 | 7654 | MARTIN | 81/09/10 | 81/08/21 | 81/12/11 |
| 14 | 30 | 7900 | JAMES | 81/12/11 | 81/09/10 | (null) |

```
SELECT SUM(DECODE(deptno, 10, sal)) as "10",
       SUM(DECODE(deptno, 20, sal)) as "20",
       SUM(DECODE(deptno, 30, sal)) as "30"
```

FROM emp;

| | 10 | 20 | 30 |
|---|------|-------|------|
| 1 | 8750 | 10875 | 9400 |

```
SELECT SUM(DECODE(job,'ANALYST',sal)) as "ANALYST",
       SUM(DECODE(job,'CLERK',sal)) as "CLERK",
       SUM(DECODE(job,'MANAGER',sal)) as "MANAGER",
       SUM(DECODE(job,'SALESMAN',sal)) as "SALESMAN"
```

FROM emp;

| | ANALYST | CLERK | MANAGER | SALESMAN |
|---|---------|-------|---------|----------|
| 1 | 6000 | 4150 | 8275 | 5600 |

```
SELECT job, sum(sal)
FROM emp
GROUP BY ROLLUP(job);
```

| | JOB | SUM(SAL) |
|---|-----------|----------|
| 1 | ANALYST | 6000 |
| 2 | CLERK | 4150 |
| 3 | MANAGER | 8275 |
| 4 | PRESIDENT | 5000 |
| 5 | SALESMAN | 5600 |
| 6 | (null) | 29025 |


```

SELECT deptno, job, sum(sal)
FROM emp
GROUP BY ROLLUP(deptno, job);

```

| | DEPTNO | JOB | SUM(SAL) |
|----|--------|-----------|----------|
| 1 | 10 | CLERK | 1300 |
| 2 | 10 | MANAGER | 2450 |
| 3 | 10 | PRESIDENT | 5000 |
| 4 | 10 | (null) | 8750 |
| 5 | 20 | CLERK | 1900 |
| 6 | 20 | ANALYST | 6000 |
| 7 | 20 | MANAGER | 2975 |
| 8 | 20 | (null) | 10875 |
| 9 | 30 | CLERK | 950 |
| 10 | 30 | MANAGER | 2850 |
| 11 | 30 | SALESMAN | 5600 |
| 12 | 30 | (null) | 9400 |
| 13 | (null) | (null) | 29025 |

```

SELECT job, sum(sal)
FROM emp
GROUP BY CUBE(job);

```

| | JOB | SUM(SAL) |
|---|-----------|----------|
| 1 | (null) | 29025 |
| 2 | CLERK | 4150 |
| 3 | ANALYST | 6000 |
| 4 | MANAGER | 8275 |
| 5 | SALESMAN | 5600 |
| 6 | PRESIDENT | 5000 |

```

SELECT deptno, job, sum(sal)
FROM emp
GROUP BY CUBE(deptno, job);

```

| | DEPTNO | JOB | SUM(SAL) |
|----|--------|-----------|----------|
| 1 | (null) | (null) | 29025 |
| 2 | (null) | CLERK | 4150 |
| 3 | (null) | ANALYST | 6000 |
| 4 | (null) | MANAGER | 8275 |
| 5 | (null) | SALESMAN | 5600 |
| 6 | (null) | PRESIDENT | 5000 |
| 7 | 10 | (null) | 8750 |
| 8 | 10 | CLERK | 1300 |
| 9 | 10 | MANAGER | 2450 |
| 10 | 10 | PRESIDENT | 5000 |
| 11 | 20 | (null) | 10875 |
| 12 | 20 | CLERK | 1900 |
| 13 | 20 | ANALYST | 6000 |
| 14 | 20 | MANAGER | 2975 |
| 15 | 30 | (null) | 9400 |
| 16 | 30 | CLERK | 950 |
| 17 | 30 | MANAGER | 2850 |
| 18 | 30 | SALESMAN | 5600 |

```

SELECT deptno, job, sum(sal)
FROM emp
GROUP BY GROUPING SETS(deptno, job);

```

| | DEPTNO | JOB | SUM(SAL) |
|---|--------|-----------|----------|
| 1 | 30 | (null) | 9400 |
| 2 | 20 | (null) | 10875 |
| 3 | 10 | (null) | 8750 |
| 4 | (null) | SALESMAN | 5600 |
| 5 | (null) | CLERK | 4150 |
| 6 | (null) | PRESIDENT | 5000 |
| 7 | (null) | MANAGER | 8275 |
| 8 | (null) | ANALYST | 6000 |

```

SELECT deptno, job, sum(sal)
FROM emp
GROUP BY GROUPING SETS(deptno, job, ( ));

```

| | DEPTNO | JOB | SUM(SAL) |
|---|--------|-----------|----------|
| 1 | 30 | (null) | 9400 |
| 2 | 20 | (null) | 10875 |
| 3 | 10 | (null) | 8750 |
| 4 | (null) | ANALYST | 6000 |
| 5 | (null) | CLERK | 4150 |
| 6 | (null) | MANAGER | 8275 |
| 7 | (null) | PRESIDENT | 5000 |
| 8 | (null) | SALESMAN | 5600 |
| 9 | (null) | (null) | 29025 |

SELECT deptno, job, sum(sal)
FROM emp
GROUP BY GROUPING SETS(deptno, job, (deptno, job), ());

| | DEPTNO | JOB | SUM(SAL) |
|----|--------|-----------|----------|
| 1 | 10 | CLERK | 1300 |
| 2 | 20 | CLERK | 1900 |
| 3 | 30 | CLERK | 950 |
| 4 | 20 | ANALYST | 6000 |
| 5 | 10 | MANAGER | 2450 |
| 6 | 20 | MANAGER | 2975 |
| 7 | 30 | MANAGER | 2850 |
| 8 | 30 | SALESMAN | 5600 |
| 9 | 10 | PRESIDENT | 5000 |
| 10 | (null) | CLERK | 4150 |
| 11 | (null) | ANALYST | 6000 |
| 12 | (null) | MANAGER | 8275 |
| 13 | (null) | SALESMAN | 5600 |
| 14 | (null) | PRESIDENT | 5000 |
| 15 | 10 | (null) | 8750 |
| 16 | 20 | (null) | 10875 |
| 17 | 30 | (null) | 9400 |
| 18 | (null) | (null) | 29025 |

SELECT empno, ename, sal, RANK() OVER (ORDER BY sal DESC) RANK,
DENSE_RANK() OVER (ORDER BY sal DESC) DENSE_RANK,
ROW_NUMBER() OVER (ORDER BY sal DESC) 번호
FROM emp;

| | EMPNO | ENAME | SAL | RANK | DENSE_RANK | 번호 |
|----|-------|--------|------|------|------------|----|
| 1 | 7839 | KING | 5000 | 1 | 1 | 1 |
| 2 | 7788 | SCOTT | 3000 | 2 | 2 | 2 |
| 3 | 7902 | FORD | 3000 | 2 | 2 | 3 |
| 4 | 7566 | JONES | 2975 | 4 | 3 | 4 |
| 5 | 7698 | BLAKE | 2850 | 5 | 4 | 5 |
| 6 | 7782 | CLARK | 2450 | 6 | 5 | 6 |
| 7 | 7499 | ALLEN | 1600 | 7 | 6 | 7 |
| 8 | 7844 | TURNER | 1500 | 8 | 7 | 8 |
| 9 | 7934 | MILLER | 1300 | 9 | 8 | 9 |
| 10 | 7521 | WARD | 1250 | 10 | 9 | 10 |
| 11 | 7654 | MARTIN | 1250 | 10 | 9 | 11 |
| 12 | 7876 | ADAMS | 1100 | 12 | 10 | 12 |
| 13 | 7900 | JAMES | 950 | 13 | 11 | 13 |
| 14 | 7369 | SMITH | 800 | 14 | 12 | 14 |

SELECT empno, ename, sal, ROW_NUMBER() OVER (ORDER BY sal DESC) 번호
FROM emp
WHERE deptno = 20;

| | EMPNO | ENAME | SAL | 번호 |
|---|-------|-------|------|----|
| 1 | 7902 | FORD | 3000 | 1 |
| 2 | 7788 | SCOTT | 3000 | 2 |
| 3 | 7566 | JONES | 2975 | 3 |
| 4 | 7876 | ADAMS | 1100 | 4 |
| 5 | 7369 | SMITH | 800 | 5 |

SELECT deptno, ename, sal, ROW_NUMBER() OVER(PARTITION BY deptno
ORDER BY sal DESC) 번호
FROM emp
WHERE deptno in (10,20);

| | DEPTNO | ENAME | SAL | 번호 |
|---|--------|--------|------|----|
| 1 | 10 | KING | 5000 | 1 |
| 2 | 10 | CLARK | 2450 | 2 |
| 3 | 10 | MILLER | 1300 | 3 |
| 4 | 20 | FORD | 3000 | 1 |
| 5 | 20 | SCOTT | 3000 | 2 |
| 6 | 20 | JONES | 2975 | 3 |
| 7 | 20 | ADAMS | 1100 | 4 |
| 8 | 20 | SMITH | 800 | 5 |

SELECT ROWNUM, empno, ename, job, sal
FROM emp
WHERE ROWNUM <= 5;

| | ROWNUM | EMPNO | ENAME | JOB | SAL |
|---|--------|-------|--------|-----------|------|
| 1 | 1 | 7839 | KING | PRESIDENT | 5000 |
| 2 | 2 | 7698 | BLAKE | MANAGER | 2850 |
| 3 | 3 | 7782 | CLARK | MANAGER | 2450 |
| 4 | 4 | 7566 | JONES | MANAGER | 2975 |
| 5 | 5 | 7654 | MARTIN | SALESMAN | 1250 |

SELECT ROWNUM, empno, ename, job, sal
FROM emp
WHERE ROWNUM <= 5
ORDER BY sal;

| | ROWNUM | EMPNO | ENAME | JOB | SAL |
|---|--------|-------|--------|-----------|------|
| 1 | 5 | 7654 | MARTIN | SALESMAN | 1250 |
| 2 | 3 | 7782 | CLARK | MANAGER | 2450 |
| 3 | 2 | 7698 | BLAKE | MANAGER | 2850 |
| 4 | 4 | 7566 | JONES | MANAGER | 2975 |
| 5 | 1 | 7839 | KING | PRESIDENT | 5000 |

WITH salemp AS(SELECT *
FROM emp
ORDER BY sal)
SELECT empno, ename, job, sal
FROM salemp
WHERE ROWNUM <= 5;

| | EMPNO | ENAME | JOB | SAL |
|---|-------|--------|----------|------|
| 1 | 7369 | SMITH | CLERK | 800 |
| 2 | 7900 | JAMES | CLERK | 950 |
| 3 | 7876 | ADAMS | CLERK | 1100 |
| 4 | 7654 | MARTIN | SALESMAN | 1250 |
| 5 | 7521 | WARD | SALESMAN | 1250 |

SELECT ROWNUM, empno, ename, job, sal
FROM emp
WHERE ROWNUM >= 3 AND ROWNUM <= 5
ORDER BY sal;

| | | | | |
|---------------------------|-------|-------|-----|-----|
| SQL 인출된 모든 행: 0(0,001초) | | | | |
| ROWNUM | EMPNO | ENAME | JOB | SAL |

```

WITH salemp AS(SELECT rownum sortno, empno, ename, job, mgr, hiredate,
sal, comm, deptno
                FROM (SELECT *
                      FROM emp
                      ORDER BY sal))

```

```

SELECT empno, ename, job, sal
FROM salemp
WHERE sortno >= 3 AND sortno <= 5;

```

| | EMPNO | ENAME | JOB | SAL |
|---|-------|--------|----------|------|
| 1 | 7876 | ADAMS | CLERK | 1100 |
| 2 | 7521 | WARD | SALESMAN | 1250 |
| 3 | 7654 | MARTIN | SALESMAN | 1250 |

```

SELECT empno, ename, job, sal
FROM (SELECT rownum sortno, empno, ename,
            job, mgr, hiredate, sal, comm, deptno
      FROM (SELECT *
            FROM emp
            ORDER BY sal))
WHERE sortno >= 3 AND sortno <= 5

```

| | EMPNO | ENAME | JOB | SAL |
|---|-------|--------|----------|------|
| 1 | 7876 | ADAMS | CLERK | 1100 |
| 2 | 7521 | WARD | SALESMAN | 1250 |
| 3 | 7654 | MARTIN | SALESMAN | 1250 |

```

SELECT rpad(' ', level*3) || ename as employee , level, sal, job
FROM emp
START WITH ename='KING'
CONNECT BY prior empno = mgr;

```

| | EMPLOYEE | LEVEL | SAL | JOB |
|----|----------|-------|------|-----------|
| 1 | KING | 1 | 5000 | PRESIDENT |
| 2 | JONES | 2 | 2975 | MANAGER |
| 3 | SCOTT | 3 | 3000 | ANALYST |
| 4 | ADAMS | 4 | 1100 | CLERK |
| 5 | FORD | 3 | 3000 | ANALYST |
| 6 | SMITH | 4 | 800 | CLERK |
| 7 | BLAKE | 2 | 2850 | MANAGER |
| 8 | ALLEN | 3 | 1600 | SALESMAN |
| 9 | WARD | 3 | 1250 | SALESMAN |
| 10 | MARTIN | 3 | 1250 | SALESMAN |
| 11 | TURNER | 3 | 1500 | SALESMAN |
| 12 | JAMES | 3 | 950 | CLERK |
| 13 | CLARK | 2 | 2450 | MANAGER |
| 14 | MILLER | 3 | 1300 | CLERK |

SELECT rpad(' ', level*3) || **ename** as employee , level, sal, job
FROM emp

START WITH ename='KING'

CONNECT BY prior empno = mgr **AND** ename != 'BLAKE';

| | EMPLOYEE | LEVEL | SAL | JOB |
|---|----------|-------|------|-----------|
| 1 | KING | 1 | 5000 | PRESIDENT |
| 2 | JONES | 2 | 2975 | MANAGER |
| 3 | SCOTT | 3 | 3000 | ANALYST |
| 4 | ADAMS | 4 | 1100 | CLERK |
| 5 | FORD | 3 | 3000 | ANALYST |
| 6 | SMITH | 4 | 800 | CLERK |
| 7 | CLARK | 2 | 2450 | MANAGER |
| 8 | MILLER | 3 | 1300 | CLERK |

SELECT rpad(' ', level*3) || **ename** as employee , level, sal, job
FROM emp

START WITH ename='JONES'

CONNECT BY prior empno = mgr ;

| | EMPLOYEE | LEVEL | SAL | JOB |
|---|----------|-------|------|---------|
| 1 | JONES | 1 | 2975 | MANAGER |
| 2 | SCOTT | 2 | 3000 | ANALYST |
| 3 | ADAMS | 3 | 1100 | CLERK |
| 4 | FORD | 2 | 3000 | ANALYST |
| 5 | SMITH | 3 | 800 | CLERK |


```

SELECT ename, SYS_CONNECT_BY_PATH(ename,'/') as path
FROM emp
START WITH ename='KING'
CONNECT BY prior empno = mgr;

```

| | ENAME | PATH |
|----|--------|-------------------------|
| 1 | KING | /KING |
| 2 | JONES | /KING/JONES |
| 3 | SCOTT | /KING/JONES/SCOTT |
| 4 | ADAMS | /KING/JONES/SCOTT/ADAMS |
| 5 | FORD | /KING/JONES/FORD |
| 6 | SMITH | /KING/JONES/FORD/SMITH |
| 7 | BLAKE | /KING/BLAKE |
| 8 | ALLEN | /KING/BLAKE/ALLEN |
| 9 | WARD | /KING/BLAKE/WARD |
| 10 | MARTIN | /KING/BLAKE/MARTIN |
| 11 | TURNER | /KING/BLAKE/TURNER |
| 12 | JAMES | /KING/BLAKE/JAMES |
| 13 | CLARK | /KING/CLARK |
| 14 | MILLER | /KING/CLARK/MILLER |

```

SELECT ename, LTRIM(SYS_CONNECT_BY_PATH(ename,'/'), '/') as path
FROM emp
START WITH ename='KING'
CONNECT BY prior empno = mgr;

```

| | ENAME | PATH |
|----|--------|------------------------|
| 1 | KING | KING |
| 2 | JONES | KING/JONES |
| 3 | SCOTT | KING/JONES/SCOTT |
| 4 | ADAMS | KING/JONES/SCOTT/ADAMS |
| 5 | FORD | KING/JONES/FORD |
| 6 | SMITH | KING/JONES/FORD/SMITH |
| 7 | BLAKE | KING/BLAKE |
| 8 | ALLEN | KING/BLAKE/ALLEN |
| 9 | WARD | KING/BLAKE/WARD |
| 10 | MARTIN | KING/BLAKE/MARTIN |
| 11 | TURNER | KING/BLAKE/TURNER |
| 12 | JAMES | KING/BLAKE/JAMES |
| 13 | CLARK | KING/CLARK |
| 14 | MILLER | KING/CLARK/MILLER |