

**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

group by rollup(col1, col2)

col1, col2 - > col1, col2

col1 - > col1

() - >

**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);**

(  
 ),  
 col2,  
 col1,  
 (col1, col2)

	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  
SORTING  
FROM  
SELECT  
WHERE  
ORDER BY

	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)**

WITH SELECT

**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;
```

START WITH  
CONNECT BY empno = mgr  
connect

	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