```
SQL> SELECT Empno, Ename, Job, Sal, Deptno
  2   FROM Emp;

EMPNO ENAME  JOB           SAL DEPTNO
----- ------ ---------- ----- ------
 7369 SMITH  CLERK        800     20
 7499 ALLEN  SALESMAN    1600     30
 7521 WARD   SALESMAN    1250     30
 7566 JONES  MANAGER     2975     20
 7654 MARTIN SALESMAN    1250     30
 7698 BLAKE  MANAGER     2850     30
 7782 CLARK  MANAGER     2450     10
 7788 SCOTT  ANALYST     3000     20
 7839 KING   PRESIDENT   5000     10
 7844 TURNER SALESMAN    1500     30
 7876 ADAMS  CLERK       1100     20

EMPNO ENAME  JOB           SAL DEPTNO
----- ------ ---------- ----- ------
 7900 JAMES  CLERK        950     30
 7902 FORD   ANALYST     3000     20
 7934 MILLER CLERK       1300     10

14 rows selected.

SQL> SELECT ROWNUM, Empno, Ename, Job, Sal, Deptno
  2   FROM Emp;

    ROWNUM EMPNO ENAME  JOB           SAL DEPTNO
---------- ----- ------ ---------- ----- ------
         1  7369 SMITH  CLERK        800     20
         2  7499 ALLEN  SALESMAN    1600     30
         3  7521 WARD   SALESMAN    1250     30
         4  7566 JONES  MANAGER     2975     20
         5  7654 MARTIN SALESMAN    1250     30
         6  7698 BLAKE  MANAGER     2850     30
         7  7782 CLARK  MANAGER     2450     10
         8  7788 SCOTT  ANALYST     3000     20
         9  7839 KING   PRESIDENT   5000     10
        10  7844 TURNER SALESMAN    1500     30
        11  7876 ADAMS  CLERK       1100     20

    ROWNUM EMPNO ENAME  JOB           SAL DEPTNO
---------- ----- ------ ---------- ----- ------
        12  7900 JAMES  CLERK        950     30
        13  7902 FORD   ANALYST     3000     20
        14  7934 MILLER CLERK       1300     10

14 rows selected.

SQL> SELECT ROWNUM SEQNO, Empno, Ename, Job, Sal, Deptno
  2   FROM Emp
  3   WHERE Deptno = 10;
```

```
       SEQNO EMPNO ENAME  JOB         SAL DEPTNO
  ---------- ----- ------ ---------- ----- ------
           1  7782 CLARK  MANAGER     2450     10
           2  7839 KING   PRESIDENT   5000     10
           3  7934 MILLER CLERK       1300     10

SQL> SELECT * FROM Sample09;
SELECT * FROM Sample09
              *
ERROR at line 1:
ORA-00942: table or view does not exist


SQL> SELECT * FROM Sample08;

no rows selected

SQL> SELECT ROWNUM, SAMPID, SAMPNAME, SAMPDATE FROM Sample08;

no rows selected

SQL> SELECT ROWNUM SEQNO, Empno, Ename, Job, Sal, Deptno
  2  FROM Emp
  3  WHERE ROWNUM = 1;

       SEQNO EMPNO ENAME  JOB         SAL DEPTNO
  ---------- ----- ------ ---------- ----- ------
           1  7369 SMITH  CLERK       800     20

SQL> SELECT ROWNUM SEQNO, Empno, Ename, Job, Sal, Deptno
  2  FROM Emp
  3  WHERE ROWNUM = 4;

no rows selected

SQL> SELECT ROWNUM SEQNO, Empno, Ename, Job, Sal, Deptno
  2  FROM Emp
  3  WHERE ROWNUM <= 4;

       SEQNO EMPNO ENAME  JOB         SAL DEPTNO
  ---------- ----- ------ ---------- ----- ------
           1  7369 SMITH  CLERK       800     20
           2  7499 ALLEN  SALESMAN   1600     30
           3  7521 WARD   SALESMAN   1250     30
           4  7566 JONES  MANAGER    2975     20

SQL> SELECT ROWNUM SEQNO, Empno, Ename, Job, Sal, Deptno
  2  FROM Emp
  3  WHERE ROWNUM > 4;

no rows selected

SQL> SELECT Ename,
  2  Job,
```

```
   3  Sal,
   4  Deptno
   5  FROM Emp
   6  WHERE MOD(ROWNUM, 2) = 0;

no rows selected

SQL> SELECT Ename,
   2  Job,
   3  Sal,
   4  Deptno
   5  FROM Emp
   6  WHERE MOD(ROWNUM, 2) = 1;

ENAME   JOB           SAL DEPTNO
------  ----------  -----  ------
SMITH   CLERK         800     20

SQL> SELECT ROWNUM, Ename, Job, Sal, Deptno
   2  FROM Emp;

    ROWNUM ENAME   JOB           SAL DEPTNO
---------- ------  ----------  -----  ------
         1 SMITH   CLERK         800     20
         2 ALLEN   SALESMAN     1600     30
         3 WARD    SALESMAN     1250     30
         4 JONES   MANAGER      2975     20
         5 MARTIN  SALESMAN     1250     30
         6 BLAKE   MANAGER      2850     30
         7 CLARK   MANAGER      2450     10
         8 SCOTT   ANALYST      3000     20
         9 KING    PRESIDENT    5000     10
        10 TURNER  SALESMAN     1500     30
        11 ADAMS   CLERK        1100     20

    ROWNUM ENAME   JOB           SAL DEPTNO
---------- ------  ----------  -----  ------
        12 JAMES   CLERK         950     30
        13 FORD    ANALYST      3000     20
        14 MILLER  CLERK        1300     10

14 rows selected.

SQL> ED
Wrote file afiedt.buf

   1  SELECT E.*
   2  FROM (
   3  SELECT ROWNUM RN, Ename, Job, Sal, Deptno
   4  FROM Emp
   5  ) E
   6* WHERE MOD(E.RN, 2) =0
SQL> /
```

```
        RN ENAME   JOB          SAL DEPTNO
---------- ------ ---------- ----- ------
         2 ALLEN   SALESMAN    1600     30
         4 JONES   MANAGER     2975     20
         6 BLAKE   MANAGER     2850     30
         8 SCOTT   ANALYST     3000     20
        10 TURNER  SALESMAN    1500     30
        12 JAMES   CLERK        950     30
        14 MILLER  CLERK       1300     10

7 rows selected.

SQL> ED
Wrote file afiedt.buf

  1   SELECT E.*
  2   FROM (
  3   SELECT ROWNUM RN, Ename, Job, Sal, Deptno
  4   FROM Emp
  5   ) E
  6* WHERE MOD(E.RN, 2) =1
SQL> /

        RN ENAME   JOB          SAL DEPTNO
---------- ------ ---------- ----- ------
         1 SMITH   CLERK        800     20
         3 WARD    SALESMAN    1250     30
         5 MARTIN  SALESMAN    1250     30
         7 CLARK   MANAGER     2450     10
         9 KING    PRESIDENT   5000     10
        11 ADAMS   CLERK       1100     20
        13 FORD    ANALYST     3000     20

7 rows selected.

SQL> SELECT ROWID, Empno, Ename, Job, Sal
  2  FROM Emp;

ROWID              EMPNO ENAME  JOB          SAL
------------------ ----- ------ ---------- -----
AAAR3sAAEAAAACXAAA  7369 SMITH  CLERK        800
AAAR3sAAEAAAACXAAB  7499 ALLEN  SALESMAN    1600
AAAR3sAAEAAAACXAAC  7521 WARD   SALESMAN    1250
AAAR3sAAEAAAACXAAD  7566 JONES  MANAGER     2975
AAAR3sAAEAAAACXAAE  7654 MARTIN SALESMAN    1250
AAAR3sAAEAAAACXAAF  7698 BLAKE  MANAGER     2850
AAAR3sAAEAAAACXAAG  7782 CLARK  MANAGER     2450
AAAR3sAAEAAAACXAAH  7788 SCOTT  ANALYST     3000
AAAR3sAAEAAAACXAAI  7839 KING   PRESIDENT   5000
AAAR3sAAEAAAACXAAJ  7844 TURNER SALESMAN    1500
AAAR3sAAEAAAACXAAK  7876 ADAMS  CLERK       1100

ROWID              EMPNO ENAME  JOB          SAL
------------------ ----- ------ ---------- -----
```

```
AAAR3sAAEAAAACXAAL  7900 JAMES  CLERK         950
AAAR3sAAEAAAACXAAM  7902 FORD   ANALYST      3000
AAAR3sAAEAAAACXAAN  7934 MILLER CLERK        1300

14 rows selected.

SQL> SELECT ROWID, Empno, Ename, Job, Sal
  2  FROM Emp
  3  WHERE ROWID = 'AAAR3sAAEAAAACXAAD';

ROWID              EMPNO ENAME  JOB          SAL
------------------ ----- ------ ---------- -----
AAAR3sAAEAAAACXAAD  7566 JONES  MANAGER     2975

SQL> --CONNECT_BY_ISCYCLE--
SQL> SELECT Ename, Empno, MGR, Job, Sal, Deptno
  2  FROM Emp
  3  START WITH Ename = 'KING'
  4  CONNECT BY PRIOR Empno = MGR;

ENAME   EMPNO       MGR JOB          SAL DEPTNO
------- ----- ---------- ---------- ----- ------
KING    7839            PRESIDENT   5000    10
JONES   7566       7839 MANAGER     2975    20
SCOTT   7788       7566 ANALYST     3000    20
ADAMS   7876       7788 CLERK       1100    20
FORD    7902       7566 ANALYST     3000    20
SMITH   7369       7902 CLERK        800    20
BLAKE   7698       7839 MANAGER     2850    30
ALLEN   7499       7698 SALESMAN    1600    30
WARD    7521       7698 SALESMAN    1250    30
MARTIN  7654       7698 SALESMAN    1250    30
TURNER  7844       7698 SALESMAN    1500    30

ENAME   EMPNO       MGR JOB          SAL DEPTNO
------- ----- ---------- ---------- ----- ------
JAMES   7900       7698 CLERK        950    30
CLARK   7782       7839 MANAGER     2450    10
MILLER  7934       7782 CLERK       1300    10

14 rows selected.

SQL> UPDATE EMP
  2  SET MGR = 7566
  3  WHERE ENAME = 'KING';

1 row updated.

SQL> SELECT Ename, Empno, MGR, Job, Sal, Deptno
  2  FROM Emp
  3  START WITH Ename = 'KING'
  4  CONNECT BY PRIOR Empno = MGR;
ERROR:
ORA-01436: CONNECT BY loop in user data
```

no rows selected

SQL> SELECT Ename, Empno, MGR, Job, Sal, Deptno
  2 FROM Emp
  3 START WITH Ename = 'KING'
  4 CONNECT BY NOCYCLE PRIOR Empno = MGR;

ENAME	EMPNO	MGR	JOB	SAL	DEPTNO
KING	7839	7566	PRESIDENT	5000	10
JONES	7566	7839	MANAGER	2975	20
SCOTT	7788	7566	ANALYST	3000	20
ADAMS	7876	7788	CLERK	1100	20
FORD	7902	7566	ANALYST	3000	20
SMITH	7369	7902	CLERK	800	20
BLAKE	7698	7839	MANAGER	2850	30
ALLEN	7499	7698	SALESMAN	1600	30
WARD	7521	7698	SALESMAN	1250	30
MARTIN	7654	7698	SALESMAN	1250	30
TURNER	7844	7698	SALESMAN	1500	30

ENAME	EMPNO	MGR	JOB	SAL	DEPTNO
JAMES	7900	7698	CLERK	950	30
CLARK	7782	7839	MANAGER	2450	10
MILLER	7934	7782	CLERK	1300	10

14 rows selected.

SQL> ED
Wrote file afiedt.buf

  1 SELECT
  2 Ename,
  3 Empno,
  4 MGR,
  5 CONNECT_BY_ISCYCLE,
  6 Job,
  7 Sal,
  8 Deptno
  9 FROM Emp
 10 START WITH Ename = 'KING'
 11* CONNECT BY NOCYCLE PRIOR Empno = MGR;
SQL> /
CONNECT BY NOCYCLE PRIOR Empno = MGR;
                                    *
ERROR at line 11:
ORA-00911: invalid character

SQL> ED

```
Wrote file afiedt.buf

  1   SELECT
  2   Ename,
  3   Empno,
  4   MGR,
  5   CONNECT_BY_ISCYCLE,
  6   Job,
  7   Sal,
  8   Deptno
  9   FROM Emp
 10   START WITH Ename = 'KING'
 11*  CONNECT BY NOCYCLE PRIOR Empno = MGR
SQL> /

ENAME    EMPNO        MGR CONNECT_BY_ISCYCLE JOB          SAL DEPTNO
------  -----  ---------- ------------------ ---------- ----- ------
KING     7839       7566                  0 PRESIDENT   5000     10
JONES    7566       7839                  1 MANAGER     2975     20
SCOTT    7788       7566                  0 ANALYST     3000     20
ADAMS    7876       7788                  0 CLERK       1100     20
FORD     7902       7566                  0 ANALYST     3000     20
SMITH    7369       7902                  0 CLERK        800     20
BLAKE    7698       7839                  0 MANAGER     2850     30
ALLEN    7499       7698                  0 SALESMAN    1600     30
WARD     7521       7698                  0 SALESMAN    1250     30
MARTIN   7654       7698                  0 SALESMAN    1250     30
TURNER   7844       7698                  0 SALESMAN    1500     30

ENAME    EMPNO        MGR CONNECT_BY_ISCYCLE JOB          SAL DEPTNO
------  -----  ---------- ------------------ ---------- ----- ------
JAMES    7900       7698                  0 CLERK        950     30
CLARK    7782       7839                  0 MANAGER     2450     10
MILLER   7934       7782                  0 CLERK       1300     10

14 rows selected.

SQL> ED
Wrote file afiedt.buf

  1   SELECT
  2   Ename,
  3   Empno,
  4   MGR,
  5   CONNECT_BY_ISCYCLE,
  6   CONNECT_BY_ISLEAF,
  7   Job,
  8   Sal,
  9   Deptno
 10   FROM Emp
 11   START WITH Ename = 'KING'
 12*  CONNECT BY NOCYCLE PRIOR Empno = MGR
SQL> /
```

Spool File For Oracle Students Prepared By Mr.Balram

```
ENAME  EMPNO       MGR CONNECT_BY_ISCYCLE CONNECT_BY_ISLEAF JOB
SAL
------ ----- ---------- ------------------ ----------------- ---------- -
----
DEPTNO
------
KING    7839      7566                  0                 0 PRESIDENT
5000
    10

JONES   7566      7839                  1                 0 MANAGER
2975
    20

SCOTT   7788      7566                  0                 0 ANALYST
3000
    20


ENAME  EMPNO       MGR CONNECT_BY_ISCYCLE CONNECT_BY_ISLEAF JOB
SAL
------ ----- ---------- ------------------ ----------------- ---------- -
----
DEPTNO
------
ADAMS   7876      7788                  0                 1 CLERK
1100
    20

FORD    7902      7566                  0                 0 ANALYST
3000
    20

SMITH   7369      7902                  0                 1 CLERK
800
    20


ENAME  EMPNO       MGR CONNECT_BY_ISCYCLE CONNECT_BY_ISLEAF JOB
SAL
------ ----- ---------- ------------------ ----------------- ---------- -
----
DEPTNO
------
BLAKE   7698      7839                  0                 0 MANAGER
2850
    30

ALLEN   7499      7698                  0                 1 SALESMAN
1600
    30

WARD    7521      7698                  0                 1 SALESMAN
1250
```

```
        30


ENAME   EMPNO       MGR CONNECT_BY_ISCYCLE CONNECT_BY_ISLEAF JOB
SAL
------ ----- ---------- ------------------ ----------------- ---------- -
----
DEPTNO
------
MARTIN  7654       7698                  0                 1 SALESMAN
1250
        30


TURNER  7844       7698                  0                 1 SALESMAN
1500
        30


JAMES   7900       7698                  0                 1 CLERK
950
        30


ENAME   EMPNO       MGR CONNECT_BY_ISCYCLE CONNECT_BY_ISLEAF JOB
SAL
------ ----- ---------- ------------------ ----------------- ---------- -
----
DEPTNO
------
CLARK   7782       7839                  0                 0 MANAGER
2450
        10


MILLER  7934       7782                  0                 1 CLERK
1300
        10


14 rows selected.

SQL> ED
Wrote file afiedt.buf

  1  SELECT
  2  Ename,
  3  Empno,
  4  MGR,
  5  CONNECT_BY_ISCYCLE CYCLE,
  6  CONNECT_BY_ISLEAF LEAF,
  7  Job,
  8  Sal,
  9  Deptno
 10  FROM Emp
 11  START WITH Ename = 'KING'
 12* CONNECT BY NOCYCLE PRIOR Empno = MGR
```

```
SQL> /

ENAME   EMPNO        MGR      CYCLE       LEAF JOB            SAL DEPTNO
------  -----  ----------  ---------- ---------- ---------- ----- ------
KING    7839   7566                 0          0 PRESIDENT   5000     10
JONES   7566   7839                 1          0 MANAGER     2975     20
SCOTT   7788   7566                 0          0 ANALYST     3000     20
ADAMS   7876   7788                 0          1 CLERK       1100     20
FORD    7902   7566                 0          0 ANALYST     3000     20
SMITH   7369   7902                 0          1 CLERK        800     20
BLAKE   7698   7839                 0          0 MANAGER     2850     30
ALLEN   7499   7698                 0          1 SALESMAN    1600     30
WARD    7521   7698                 0          1 SALESMAN    1250     30
MARTIN  7654   7698                 0          1 SALESMAN    1250     30
TURNER  7844   7698                 0          1 SALESMAN    1500     30

ENAME   EMPNO        MGR      CYCLE       LEAF JOB            SAL DEPTNO
------  -----  ----------  ---------- ---------- ---------- ----- ------
JAMES   7900   7698                 0          1 CLERK        950     30
CLARK   7782   7839                 0          0 MANAGER     2450     10
MILLER  7934   7782                 0          1 CLERK       1300     10

14 rows selected.

SQL> SPOOL OFF
```