Bahria University
Discovering Knowledge

DATABASE MANAGEMENT SYSTEMS LAB
Lab Journal #2
Malik Zohaib Mustafa
01-134192-030
BSCS-4B

1. List the name, salary of the employees who are clerks.
   Query:

   SELECT ENAME, SAL FROM EMP
   WHERE JOB = 'CLERK';

   Output:

   Oracle SQL*Plus

   File Edit Search Options Help

   ```
   SQL*Plus: Release 10.2.0.3.0 - Production on Thu Mar 18 10:48:02 2021

   Copyright (c) 1982, 2006, Oracle.  All Rights Reserved.


   Connected to:
   Oracle Database 10g Enterprise Edition Release 10.2.0.3.0 - Production
   With the Partitioning, OLAP and Data Mining options

   SQL> Zaibi's Journal 2
   SP2-0734: unknown command beginning "Zaibi's Jo..." - rest of line ignored.
   SQL> SELECT ENAME , SAL FROM EMP
     2  WHERE JOB = 'CLERK';

   ENAME          SAL
   ---------- ----------
   SMITH          800
   ADAMS          1100
   JAMES          950
   MILLER         1300

   SQL> |
   ```

2. List the name, job, salary of every employee joined on 'December 17,1980',

Query:

SELECT ENAME, JOB, SAL FROM EMP
WHERE HIREDATE = '17-DEC-1980';

Output:

```
SQL> SELECT ENAME , JOB , SAL FROM EMP
  2   WHERE HIREDATE='17-DEC-1980';

ENAME        JOB               SAL
----------   ----------   ----------
SMITH        CLERK             800

SQL> |
```

3. List the department name & deptno for departments having deptno.>=20

Query:

SELECT DNAME, DEPTNO
FROM DEPT
WHERE DEPTNO>=20;

Output:

```
SQL> SELECT DNAME,DEPTNO
  2   FROM DEPT
  3   WHERE DEPTNO>=20;

DNAME              DEPTNO
-------------   ----------
RESEARCH               20
SALES                  30
OPERATIONS             40
```

4. Display employees' names, salary, and manager values of those employees whose salary is 5000 from EMP table using SELECT statement.

Query:

SELECT ENAME, SAL, MGR
FROM EMP
WHERE SAL = 5000;

Output:

```
SQL> SELECTENAME,SAL,MGR
SP2-0734: unknown command beginning "SELECTENAM..." - rest of line ignored.
SQL> SELECT ENAME,SAL , MGR
  2   FROM EMP
  3   WHERE SAL = 5000;

ENAME              SAL        MGR
----------   ----------   ----------
KING              5000

SQL> |
```

5. Select dname from DEPT table where location is Islamabad.

Query:

SELECT DNAME
FROM DEPT
WHERE LOC = 'ISLAMABAD';

Output:

NO ROWS SELECTED BECAUSE ISLAMABAD DOESNOT EXIST

```
SQL> SELECT DNAME
  2  FROM DEPT
  3  WHERE LOC = 'ISLAMABAD';

no rows selected
```

6. List the employees who have salary between 1000&2000.

Query:

SELECT *
FROM EMP
WHERE SAL
BETWEEN
1000 AND 2000;

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE SAL
  4  BETWEEN
  5  1000 AND 2000;

    EMPNO ENAME      JOB            MGR HIREDATE        SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN       7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN       7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN       7698 28-SEP-81       1250       1400         30
      7844 TURNER     SALESMAN       7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK          7788 23-MAY-87       1100                    20
      7934 MILLER     CLERK          7782 23-JAN-82       1300                    10

6 rows selected.
```

7. List the name, salary, commission of the employees where commission is greater than their salary.

Query:

SELECT ENAME, SAL, COMM FROM EMP WHERE COMM > SAL;

Output:

```
SQL> SELECT ENAME, SAL , COMM
  2  FROM EMP WHERE COMM>SAL;

ENAME               SAL         COMM
----------    ----------   ----------
MARTIN             1250         1400
```

8. List the employees who have salary between 1000&2000 (using AND Operator)

Query:

SELECT * FROM EMP WHERE SAL > 1000 AND SAL <=2000;

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE SAL > 1000
  4  AND
  5  SAL <=2000;

    EMPNO ENAME      JOB              MGR HIREDATE        SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7499 ALLEN      SALESMAN        7698 20-FEB-81      1600        300         30
     7521 WARD       SALESMAN        7698 22-FEB-81      1250        500         30
     7654 MARTIN     SALESMAN        7698 28-SEP-81      1250       1400         30
     7844 TURNER     SALESMAN        7698 08-SEP-81      1500          0         30
     7876 ADAMS      CLERK           7788 23-MAY-87      1100                    20
     7934 MILLER     CLERK           7782 23-JAN-82      1300                    10

6 rows selected.
```

9. List the name, monthly salary and daily salary and hourly salary for employee; assume that there are 22 working days in a month,8 working hours in a day. Display the rows with column names as monthly, daily &hourly sal.

Query:

```
SELECT ENAME,
SAL*22*8
AS MONTHLYSALARY,
SAL*8
AS DAILYSALARY,
SAL
AS HOURLY SALARY
FROM EMP;
```

Output:

```
SQL> SELECT ENAME,
  2   SAL*22*8
  3   AS MONTHLYSALARY,
  4   SAL*8
  5   AS DAILYSALARY,
  6   SAL
  7   AS HOURLYSALARY
  8   FROM EMP;

ENAME        MONTHLYSALARY DAILYSALARY HOURLYSALARY
----------   ------------- ----------- ------------
SMITH               140800        6400          800
ALLEN               281600       12800         1600
WARD                220000       10000         1250
JONES               523600       23800         2975
MARTIN              220000       10000         1250
BLAKE               501600       22800         2850
CLARK               431200       19600         2450
SCOTT               528000       24000         3000
KING                880000       40000         5000
TURNER              264000       12000         1500
ADAMS               193600        8800         1100

ENAME        MONTHLYSALARY DAILYSALARY HOURLYSALARY
----------   ------------- ----------- ------------
JAMES               167200        7600          950
FORD                528000       24000         3000
MILLER              228800       10400         1300

14 rows selected.
```

10. List the name and empno of managers who earn more than 2000.display the result in alphabetical order of the name.

Query:

```
SELECT ENAME, EMPNO
FROM EMP
WHERE JOB = 'MANAGER'
AND
SAL>'2000'
ORDER BY ENAME ASC;
```

Output:

```
SQL> SELECT ENAME,EMPNO
  2  FROM EMP
  3  WHERE JOB='MANAGER'
  4  AND
  5  SAL>'2000'
  6  ORDER BY ENAME ASC;

ENAME          EMPNO
---------- ----------
BLAKE           7698
CLARK           7782
JONES           7566
```

11. Display all employee names which have 'TH'or 'LL' in them.

Query:

```
SELECT ENAME
FROM EMP
WHERE
ENAME LIKE '%TH%'
OR
ENAME LIKE '%LL%';
```

Output:

```
SQL> SELECT *
  2
SQL> SELECT ENAME
  2  FROM EMP
  3  WHERE
  4  ENAME LIKE '%TH%'
  5  OR
  6  ENAME LIKE '%LL%';

ENAME
----------
SMITH
ALLEN
MILLER

SQL> |
```

12. List the details of the employees in the depts of 10 & 20 in the order of empno.

Query:

SELECT *   FROM EMP   WHERE   DEPTNO IN ('10','20')   ORDER BY EMPNO ASC;

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE
  4  DEPTNO IN('10','20')
  5  ORDER BY EMPNO ASC;

    EMPNO ENAME      JOB              MGR HIREDATE          SAL       COMM     DEPTNO
--------- ---------- ---------- --------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK           7902 17-DEC-80        800                    20
     7566 JONES      MANAGER         7839 02-APR-81       2975                    20
     7782 CLARK      MANAGER         7839 09-JUN-81       2450                    10
     7788 SCOTT      ANALYST         7566 19-APR-87       3000                    20
     7839 KING       PRESIDENT            17-NOV-81       5000                    10
     7876 ADAMS      CLERK           7788 23-MAY-87       1100                    20
     7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
     7934 MILLER     CLERK           7782 23-JAN-82       1300                    10

8 rows selected.
```

13. Display the information about the managers and clerks from the column 'Job' in the table emp, order the result by deptno.

Query:

SELECT *   FROM EMP   WHERE JOB='MANAGER'   OR   JOB = 'CLERK'   ORDER BY   DEPTNO ASC;

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE JOB='MANAGER'
  4  OR
  5  JOB = 'CLERK'
  6  ORDER BY
  7  DEPTNO ASC;

    EMPNO ENAME      JOB            MGR HIREDATE        SAL       COMM     DEPTNO
---------- ---------- ---------- ---------- --------- ---------- ---------- ----------
     7782 CLARK      MANAGER       7839 09-JUN-81     2450                      10
     7934 MILLER     CLERK         7782 23-JAN-82     1300                      10
     7876 ADAMS      CLERK         7788 23-MAY-87     1100                      20
     7566 JONES      MANAGER       7839 02-APR-81     2975                      20
     7369 SMITH      CLERK         7902 17-DEC-80      800                      20
     7698 BLAKE      MANAGER       7839 01-MAY-81     2850                      30
     7900 JAMES      CLERK         7698 03-DEC-81      950                      30

7 rows selected.
```

14. List the empnames that do not end with 's'.

Query:

```
SELECT ENAME
FROM EMP
WHERE ENAME
NOT LIKE '%S';
```

Output:

```
SQL> SELECT ENAME
  2  FROM EMP
  3  WHERE ENAME
  4  NOT LIKE '%S';

ENAME
----------
SMITH
ALLEN
WARD
MARTIN
BLAKE
CLARK
SCOTT
KING
TURNER
FORD
MILLER

11 rows selected.
```

15. List the emp names that begin with 'c'.

Query:

```
SELECT ENAME
FROM EMP
WHERE ENAME
LIKE 'C%';
```

Output:

```
SQL> SELECT ENAME
  2  FROM EMP
  3  WHERE ENAME
  4  LIKE 'C%';

ENAME
----------
CLARK
```

16. List the names of the employees starts with T/t and ends with R/r.

Query:

```
SELECT *
FROM EMP
WHERE ENAME
LIKE
'T%R'
OR ENAME
LIKE 'T%r'
OR ENAME
LIKE 't%R'
OR ENAME
LIKE 't%r';
```

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE ENAME
  4  LIKE
  5  'T%R'
  6  OR ENAME
  7  LIKE 'T%r'
  8  OR ENAME
  9  LIKE 't%R'
 10  OR ENAME
 11  LIKE 't%r';

    EMPNO ENAME      JOB            MGR HIREDATE        SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7844 TURNER     SALESMAN       7698 08-SEP-81      1500          0         30
```

17. List the name of employees who joined during 1981.

Query:

```
SELECT *
FROM EMP
WHERE
HIREDATE
LIKE
'%81';
```

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE
  4  HIREDATE
  5  LIKE '%81';

    EMPNO ENAME      JOB            MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN        7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN        7698 22-FEB-81       1250        500         30
      7566 JONES      MANAGER         7839 02-APR-81       2975                    20
      7654 MARTIN     SALESMAN        7698 28-SEP-81       1250       1400         30
      7698 BLAKE      MANAGER         7839 01-MAY-81       2850                    30
      7782 CLARK      MANAGER         7839 09-JUN-81       2450                    10
      7839 KING       PRESIDENT            17-NOV-81       5000                    10
      7844 TURNER     SALESMAN        7698 08-SEP-81       1500          0         30
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20

10 rows selected.
```

18. List the data as shown below

"Smith has held the position of clerk in dept 20 since 19 june,1982"

Query:

```
SELECT ENAME
||' has held the position of '||
JOB
||' in dept '||
DEPTNO
||' since '||
HIREDATE
FROM EMP;
```

Output:

```
SQL> SELECT ENAME
  2  ||' has held the position of '||
  3  JOB
  4  ||' in dept '||
  5  DEPTNO
  6  ||' since '||
  7  HIREDATE
  8  FROM EMP;

ENAME||'HASHELDTHEPOSITIONOF'||JOB||'INDEPT'||DEPTNO||'SINCE'||HIREDATE
--------------------------------------------------------------------------------
SMITH has held the position of CLERK in dept 20 since 17-DEC-80
ALLEN has held the position of SALESMAN in dept 30 since 20-FEB-81
WARD has held the position of SALESMAN in dept 30 since 22-FEB-81
JONES has held the position of MANAGER in dept 20 since 02-APR-81
MARTIN has held the position of SALESMAN in dept 30 since 28-SEP-81
BLAKE has held the position of MANAGER in dept 30 since 01-MAY-81
CLARK has held the position of MANAGER in dept 10 since 09-JUN-81
SCOTT has held the position of ANALYST in dept 20 since 19-APR-87
KING has held the position of PRESIDENT in dept 10 since 17-NOV-81
TURNER has held the position of SALESMAN in dept 30 since 08-SEP-81
ADAMS has held the position of CLERK in dept 20 since 23-MAY-87

ENAME||'HASHELDTHEPOSITIONOF'||JOB||'INDEPT'||DEPTNO||'SINCE'||HIREDATE
--------------------------------------------------------------------------------
JAMES has held the position of CLERK in dept 30 since 03-DEC-81
FORD has held the position of ANALYST in dept 20 since 03-DEC-81
MILLER has held the position of CLERK in dept 10 since 23-JAN-82

14 rows selected.
```

19. List all rows in employee table by converting commission column to zero.

Without Update Query:

SET LINESIZE 500.

SELECT EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM*0, DEPTNO

FROM EMP;

Output:

```
SQL> SET LINESIZE 500;
SQL> SELECT EMPNO,ENAME,JOB,MGR,HIREDATE,SAL,COMM*0 , DEPTNO
  2  FROM EMP;

     EMPNO ENAME      JOB              MGR HIREDATE         SAL     COMM*0     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK           7902 17-DEC-80        800                    20
      7499 ALLEN      SALESMAN        7698 20-FEB-81       1600          0         30
      7521 WARD       SALESMAN        7698 22-FEB-81       1250          0         30
      7566 JONES      MANAGER         7839 02-APR-81       2975                    20
      7654 MARTIN     SALESMAN        7698 28-SEP-81       1250          0         30
      7698 BLAKE      MANAGER         7839 01-MAY-81       2850                    30
      7782 CLARK      MANAGER         7839 09-JUN-81       2450                    10
      7788 SCOTT      ANALYST         7566 19-APR-87       3000                    20
      7839 KING       PRESIDENT            17-NOV-81       5000                    10
      7844 TURNER     SALESMAN        7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK           7788 23-MAY-87       1100                    20

     EMPNO ENAME      JOB              MGR HIREDATE         SAL     COMM*0     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10

14 rows selected.
```

With Update Query (I guess this is more suitable but we haven't done update query yet):

```
UPDATE EMP
SET COMM = 0;
```

Output:

```
SQL> UPDATE EMP
  2  SET COMM = 0;

14 rows updated.
```

Verify:

Verifying by Displaying all tables again.

```
SQL> UPDATE EMP
  2  SET COMM = 0;

14 rows updated.

SQL> SELECT * FROM EMP;

    EMPNO ENAME      JOB            MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK         7902 17-DEC-80        800          0         20
      7499 ALLEN      SALESMAN      7698 20-FEB-81       1600          0         30
      7521 WARD       SALESMAN      7698 22-FEB-81       1250          0         30
      7566 JONES      MANAGER       7839 02-APR-81       2975          0         20
      7654 MARTIN     SALESMAN      7698 28-SEP-81       1250          0         30
      7698 BLAKE      MANAGER       7839 01-MAY-81       2850          0         30
      7782 CLARK      MANAGER       7839 09-JUN-81       2450          0         10
      7788 SCOTT      ANALYST       7566 19-APR-87       3000          0         20
      7839 KING       PRESIDENT          17-NOV-81       5000          0         10
      7844 TURNER     SALESMAN      7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK         7788 23-MAY-87       1100          0         20

    EMPNO ENAME      JOB            MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7900 JAMES      CLERK         7698 03-DEC-81        950          0         30
      7902 FORD       ANALYST       7566 03-DEC-81       3000          0         20
      7934 MILLER     CLERK         7782 23-JAN-82       1300          0         10

14 rows selected.
```

20. Provide the empno and employee name whose salary is greater than 10,00

Query:

```
SELECT EMPNO, ENAME
FROM EMP
WHERE
SAL >1000;
```

Output:

```
SQL> SELECT EMPNO,ENAME
  2  FROM EMP
  3  WHERE
  4  SAL >1000
  5  ;

    EMPNO ENAME
---------- ----------
     7499 ALLEN
     7521 WARD
     7566 JONES
     7654 MARTIN
     7698 BLAKE
     7782 CLARK
     7788 SCOTT
     7839 KING
     7844 TURNER
     7876 ADAMS
     7902 FORD

    EMPNO ENAME
---------- ----------
     7934 MILLER

12 rows selected.
```

21. List all employees, sorted by job

Query:

```
SELECT *
FROM EMP
ORDER BY JOB ASC;
```

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  ORDER BY JOB ASC;

    EMPNO ENAME      JOB            MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7788 SCOTT      ANALYST       7566 19-APR-87      3000                     20
     7902 FORD       ANALYST       7566 03-DEC-81      3000                     20
     7934 MILLER     CLERK         7782 23-JAN-82      1300                     10
     7900 JAMES      CLERK         7698 03-DEC-81       950                     30
     7369 SMITH      CLERK         7902 17-DEC-80       800                     20
     7876 ADAMS      CLERK         7788 23-MAY-87      1100                     20
     7698 BLAKE      MANAGER       7839 01-MAY-81      2850                     30
     7566 JONES      MANAGER       7839 02-APR-81      2975                     20
     7782 CLARK      MANAGER       7839 09-JUN-81      2450                     10
     7839 KING       PRESIDENT          17-NOV-81      5000                     10
     7844 TURNER     SALESMAN      7698 08-SEP-81      1500          0          30

    EMPNO ENAME      JOB            MGR HIREDATE          SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7654 MARTIN     SALESMAN      7698 28-SEP-81      1250       1400         30
     7521 WARD       SALESMAN      7698 22-FEB-81      1250        500         30
     7499 ALLEN      SALESMAN      7698 20-FEB-81      1600        300         30

14 rows selected.
```

22. List departments which are in Chicago?

Query:

```
SELECT *
FROM DEPT
WHERE LOC = 'CHICAGO';
```

Output:

```
SQL> SELECT *
  2   FROM DEPT
  3   WHERE LOC = 'CHICAGO';

    DEPTNO DNAME          LOC
---------- -------------- -------------
        30 SALES          CHICAGO
```

23. Which employees get salary less than 20,000 and commission greater than 100.

Note: I did this task before using update query in task 19 because after update query This Part will give output of no rows selected.

Query:

```
SELECT *
FROM EMP
WHERE SAL <20000
AND
COMM > 100;
```

Output:

```
SQL> SELECT *
  2   FROM EMP
  3   WHERE SAL <20000
  4   AND
  5   COMM > 100;

    EMPNO ENAME      JOB           MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN       7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN       7698 22-FEB-81       1250        500         30
      7654 MARTIN     SALESMAN       7698 28-SEP-81       1250       1400         30
```

24. List the names and salary of all employees, except for Jones.

Query:

```
SELECT *
FROM EMP
WHERE ENAME
```

NOT LIKE '%JONES%';

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE ENAME
  4  NOT LIKE '%JONES%';

    EMPNO ENAME      JOB          MGR HIREDATE        SAL       COMM     DEPTNO
--------- ---------- --------- ------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK        7902 17-DEC-80        800                    20
     7499 ALLEN      SALESMAN     7698 20-FEB-81       1600        300         30
     7521 WARD       SALESMAN     7698 22-FEB-81       1250        500         30
     7654 MARTIN     SALESMAN     7698 28-SEP-81       1250       1400         30
     7698 BLAKE      MANAGER      7839 01-MAY-81       2850                    30
     7782 CLARK      MANAGER      7839 09-JUN-81       2450                    10
     7788 SCOTT      ANALYST      7566 19-APR-87       3000                    20
     7839 KING       PRESIDENT         17-NOV-81       5000                    10
     7844 TURNER     SALESMAN     7698 08-SEP-81       1500          0         30
     7876 ADAMS      CLERK        7788 23-MAY-87       1100                    20
     7900 JAMES      CLERK        7698 03-DEC-81        950                    30

    EMPNO ENAME      JOB          MGR HIREDATE        SAL       COMM     DEPTNO
--------- ---------- --------- ------- --------- ---------- ---------- ----------
     7902 FORD       ANALYST      7566 03-DEC-81       3000                    20
     7934 MILLER     CLERK        7782 23-JAN-82       1300                    10

13 rows selected.
```

25. Find the empno, job, and hire date of all Clerks and managers hired before 1990. (use IN)

Query:

SELECT EMPNO, JOB, HIREDATE
FROM EMP
WHERE JOB IN('CLERK','MANAGER')
AND HIREDATE<'01-JAN-1990';

Output:

```
SQL> SELECT EMPNO,JOB,HIREDATE
  2  FROM EMP
  3  WHERE JOB IN('CLERK','MANAGER')
  4  AND HIREDATE<'01-JAN-1990';

    EMPNO JOB       HIREDATE
--------- --------- ---------
     7369 CLERK     17-DEC-80
     7566 MANAGER   02-APR-81
     7698 MANAGER   01-MAY-81
     7782 MANAGER   09-JUN-81
     7876 CLERK     23-MAY-87
     7900 CLERK     03-DEC-81
     7934 CLERK     23-JAN-82

7 rows selected.
```

26. Find the empno, job, and hire date of all Clerks and managers hired before 1990. (do not use IN)

Query:

```
SELECT EMPNO, JOB, HIREDATE
FROM EMP
WHERE JOB='CLERK'
 OR
 JOB = 'MANAGER'
 AND
 HIREDATE<'01-JAN-1990';
```

Output:

```
SQL> SELECT EMPNO,JOB,HIREDATE
  2   FROM EMP
  3   WHERE JOB='CLERK'
  4    OR
  5    JOB = 'MANAGER'
  6    AND
  7    HIREDATE<'01-JAN-1990';

    EMPNO JOB        HIREDATE
---------- ---------- ---------
      7369 CLERK      17-DEC-80
      7566 MANAGER    02-APR-81
      7698 MANAGER    01-MAY-81
      7782 MANAGER    09-JUN-81
      7876 CLERK      23-MAY-87
      7900 CLERK      03-DEC-81
      7934 CLERK      23-JAN-82

7 rows selected.
```

27. List the numbers of all employees who do not earn commission.

Note: I did this task before using update query in task 19 because after update query This Part will give output of no rows selected.

Query:

```
SELECT *
FROM EMP
WHERE COMM
IS NULL;
```

Output:

```
SQL> SELECT *
  2  FROM EMP
  3  WHERE COMM
  4  IS NULL;

    EMPNO ENAME      JOB           MGR HIREDATE         SAL       COMM     DEPTNO
--------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK        7902 17-DEC-80       800                    20
     7566 JONES      MANAGER      7839 02-APR-81      2975                    20
     7698 BLAKE      MANAGER      7839 01-MAY-81      2850                    30
     7782 CLARK      MANAGER      7839 09-JUN-81      2450                    10
     7788 SCOTT      ANALYST      7566 19-APR-87      3000                    20
     7839 KING       PRESIDENT         17-NOV-81      5000                    10
     7876 ADAMS      CLERK        7788 23-MAY-87      1100                    20
     7900 JAMES      CLERK        7698 03-DEC-81       950                    30
     7902 FORD       ANALYST      7566 03-DEC-81      3000                    20
     7934 MILLER     CLERK        7782 23-JAN-82      1300                    10

10 rows selected.
```

28. List the departments except research. Without using like

Query:

```
SELECT *
FROM DEPT
WHERE DNAME
! ='RESEARCH';
```

Output:

```
SQL> SELECT *
  2  FROM DEPT
  3  WHERE DNAME
  4  !='RESEARCH';

   DEPTNO DNAME          LOC
--------- -------------- -------------
       10 ACCOUNTING     NEW YORK
       30 SALES          CHICAGO
       40 OPERATIONS     BOSTON
```

29. List departments which are in Boston?

Query:

```
SELECT *
FROM DEPT
WHERE LOC = 'BOSTON';
```

Output:

```
SQL> SELECT *
  2  FROM DEPT
  3  WHERE LOC = 'BOSTON';

   DEPTNO DNAME          LOC
--------- -------------- -----------
       40 OPERATIONS     BOSTON
```

30. Create a report to display the last name and job title of all employees who do not have a manager.

Query:

SELECT ENAME, JOB
FROM EMP
WHERE MGR IS NULL;

Output:

```
SQL> SELECT ENAME,JOB
  2   FROM EMP
  3   WHERE MGR IS NULL;

ENAME       JOB
---------- ---------
KING        PRESIDENT
```