Database Assignment 1

Note : Use Emp, dept and salgrade table

1. To list all records with sal > 2000 and comm>200

   Ans : select * from emp where sal>2000 and comm>200;

      no rows selected

2. To list all record with job='Clerk' or sal>2000

   Ans: select * from emp where job='CLERK' or sal>2000;

```
    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 09-DEC-82      3000                     20
     7839 KING       PRESIDENT         17-NOV-81      5000                     10
     7876 ADAMS      CLERK        7788 12-JAN-83      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
```

3. To list all the record with sal=1250 or 1100 or 2850

   Ans:

```
SQL> select * from emp where sal in(1250,1100,2850);

    EMPNO ENAME      JOB           MGR HIREDATE        SAL       COMM     DEPTNO
--------- ---------- --------- ---------- --------- ---------- ---------- ----------
     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
     7876 ADAMS      CLERK        7788 12-JAN-83      1100                     20
```

4. To list all employees with sal>1250 and <2850

```
SQL> select * from emp where sal between 1250 and 2850;

    EMPNO ENAME      JOB           MGR HIREDATE        SAL       COMM     DEPTNO
--------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7698 BLAKE      MANAGER      7839 01-MAY-81      2850                     30
     7782 CLARK      MANAGER      7839 09-JUN-81      2450                     10
     7499 ALLEN      SALESMAN     7698 20-FEB-81      1600        300         30
     7844 TURNER     SALESMAN     7698 08-SEP-81      1500          0         30
     7934 MILLER     CLERK        7782 23-JAN-82      1300                     10
     7521 WARD       SALESMAN     7698 22-FEB-81      1250        500         30
     7654 MARTIN     SALESMAN     7698 28-SEP-81      1250       1400         30
```

5. To list all employees with name ends with AS

```
SQL> select * from emp where ename like '%AS';

no rows selected
```

6. To list all employees with job starts with C and ends with K

```
SQL> select * from emp where REGEXP_LIKE(job,'^C.*K$');

    EMPNO ENAME      JOB              MGR HIREDATE        SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ---------
      7369 SMITH      CLERK           7902 17-DEC-80        800                    20
      7876 ADAMS      CLERK           7788 12-JAN-83       1100                    20
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10
```

7. To list all employees with job contains L at third position and M at third last position

```
SQL> select * from emp where REGEXP_LIKE(job,'^..L.*M..$');

    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
```

8. To list all the record with sal not equal to 1250 or 1100 or 2850

```
SQL> select * from emp where sal not in (1250,1100,2850);

    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
      7566 JONES      MANAGER         7839 02-APR-81       2975                    20
      7782 CLARK      MANAGER         7839 09-JUN-81       2450                    10
      7788 SCOTT      ANALYST         7566 09-DEC-82       3000                    20
      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
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10
```

9. To list all employees with salnot >1250 and <2850

```
SQL> select * from emp where sal not between 1250 and 2850;

    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
      7788 SCOTT      ANALYST         7566 09-DEC-82       3000                    20
      7839 KING       PRESIDENT            17-NOV-81       5000                    10
      7876 ADAMS      CLERK           7788 12-JAN-83       1100                    20
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
```

10. To list all employees with job starts with C , E at 3rd position and ends with K

```
SQL> select * from emp where REGEXP_LIKE(job,'^C.E.*K$');

    EMPNO ENAME      JOB            MGR HIREDATE       SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK         7902 17-DEC-80       800                    20
     7876 ADAMS      CLERK         7788 12-JAN-83      1100                    20
     7900 JAMES      CLERK         7698 03-DEC-81       950                    30
     7934 MILLER     CLERK         7782 23-JAN-82      1300                    10
```

11. To list all rows with comm is null

```
SQL> select * from emp where comm 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 09-DEC-82      3000                    20
     7839 KING       PRESIDENT          17-NOV-81      5000                    10
     7876 ADAMS      CLERK         7788 12-JAN-83      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
```

12. To list all employees with sal is null and name starts with 'S'

```
SQL> select * from emp where sal is null and ename like 'S%';

no rows selected
```

13. To list all employees with job contains 5 characters

```
SQL> select * from emp where REGEXP_LIKE(job,'^.....$');

    EMPNO ENAME      JOB            MGR HIREDATE       SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK         7902 17-DEC-80       800                    20
     7876 ADAMS      CLERK         7788 12-JAN-83      1100                    20
     7900 JAMES      CLERK         7698 03-DEC-81       950                    30
     7934 MILLER     CLERK         7782 23-JAN-82      1300                    10
```

```
SQL> select * from emp where REGEXP_LIKE(job,'^.{5}$');

    EMPNO ENAME      JOB            MGR HIREDATE       SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7369 SMITH      CLERK         7902 17-DEC-80       800                    20
     7876 ADAMS      CLERK         7788 12-JAN-83      1100                    20
     7900 JAMES      CLERK         7698 03-DEC-81       950                    30
     7934 MILLER     CLERK         7782 23-JAN-82      1300                    10
```

14. To list all employees with name contain 'A' at 1 position and job Contains 5 characters

```
SQL> select * from emp where REGEXP_LIKE(job,'^.{5}$')and ename like 'A%';

    EMPNO ENAME      JOB            MGR HIREDATE       SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
     7876 ADAMS      CLERK         7788 12-JAN-83      1100                    20
```

Q2. Solve the following

1. Retrieve the details (Name, Salary and dept no) of the emp who are working in department code 20, 30 and 40.

```
SQL> select ename, sal , deptno from emp where deptno in (20,30,40);

ENAME              SAL     DEPTNO
---------- ---------- ----------
SMITH              800         20
ALLEN             1600         30
WARD              1250         30
JONES             2975         20
MARTIN            1250         30
BLAKE             2850         30
SCOTT             3000         20
TURNER            1500         30
ADAMS             1100         20
JAMES              950         30
FORD              3000         20
```

2. Display the total salary of all employees . Total salary will be calculated as sal+comm+sal*0.10

```
SQL>  select ename,sal,deptno,sal+nvl(comm,0)+sal*0.10 from emp;

ENAME            SAL DEPTNO SAL+NVL(COMM,0)+SAL*0.10
---------- ----- ------ ------------------------
SMITH            800     20                      880
ALLEN           1600     30                     2060
WARD            1250     30                     1875
JONES           2975     20                     3273
MARTIN          1250     30                     2775
BLAKE           2850     30                     3135
CLARK           2450     10                     2695
SCOTT           3000     20                     3300
KING            5000     10                     5500
TURNER          1500     30                     1650
ADAMS           1100     20                     1210
JAMES            950     30                     1045
FORD            3000     20                     3300
MILLER          1300     10                     1430

14 rows selected.
```

3.   List the Name and job of the emp who have joined before 1 jan 1986 and whose
        salary range is between 1200and 2500. Display the columns with user defined
        Column headers.

```
SQL> select ename employee_name , job Designation from emp where hiredate<'1-JAN-1986' and sal between 1200 and 2500;

EMPLOYEE_N DESIGNATI
---------- ---------
ALLEN      SALESMAN
WARD       SALESMAN
MARTIN     SALESMAN
CLARK      MANAGER
TURNER     SALESMAN
MILLER     CLERK
```

4.   List the empno, name, and department number of the emp works under manager
        with id 7698

```
SQL> select empno,ename,deptno from emp where mgr=7698;

    EMPNO ENAME          DEPTNO
--------- ---------- ----------
     7499 ALLEN              30
     7521 WARD               30
     7654 MARTIN             30
     7844 TURNER             30
     7900 JAMES              30
```

5.   List the name, job, and salary of the emp who are working in departments 10 and
        30.

```
SQL> select ename,job,sal from emp where deptno in(10,30);

ENAME      JOB              SAL
---------- --------- ----------
ALLEN      SALESMAN        1600
WARD       SALESMAN        1250
MARTIN     SALESMAN        1250
BLAKE      MANAGER         2850
CLARK      MANAGER         2450
KING       PRESIDENT       5000
TURNER     SALESMAN        1500
JAMES      CLERK            950
MILLER     CLERK           1300

9 rows selected.
```

6. Display name concatenated with dept code separated by comma and space. Name the column as 'Emp info'.

```
SQL> select ename || ', ' || deptno Emp_info from emp;

EMP_INFO
---------------------------------------------------
SMITH, 20
ALLEN, 30
WARD, 30
JONES, 20
MARTIN, 30
BLAKE, 30
CLARK, 10
SCOTT, 20
KING, 10
TURNER, 30
ADAMS, 20
JAMES, 30
FORD, 20
MILLER, 10
```

7. Display the emp details who do not have manager.

```
SQL> select * from emp where mgr is null;

    EMPNO ENAME      JOB            MGR HIREDATE       SAL       COMM     DEPTNO
--------- ---------- ---------- ---------- --------- ---------- ---------- ----------
     7839 KING       PRESIDENT            17-NOV-81  5000                       10
```

8. Write a query which will display name, department no and date of joining of all employee who were joined January 1, 1981 and March 31, 1983. Sort it based on date of joining (ascending).

```
SQL> select ename,deptno,hiredate from emp where hiredate between '01-jan-81'and '31-mar-83' order by hiredate;

ENAME        DEPTNO HIREDATE
---------- ---------- ---------
ALLEN            30 20-FEB-81
WARD             30 22-FEB-81
JONES            20 02-APR-81
BLAKE            30 01-MAY-81
CLARK            10 09-JUN-81
TURNER           30 08-SEP-81
MARTIN           30 28-SEP-81
KING             10 17-NOV-81
JAMES            30 03-DEC-81
FORD             20 03-DEC-81
MILLER           10 23-JAN-82
SCOTT            20 09-DEC-82
ADAMS            20 12-JAN-83
```

9.   Display the employee details where the job contains word 'AGE' anywhere in the Job

```
SQL> select * from emp where REGEXP_LIKE(job,'AGE');

    EMPNO ENAME      JOB            MGR HIREDATE      SAL       COMM      DEPTNO
---------- ---------- --------- ---------- -------- ---------- ---------- ----------
     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
```

11.   List the details of the employee , whose names start with 'A' and end with 'S' or
        whose names contains N as the second or third character, and ending with either 'N'
        or 'S'.

```
SQL> select * from emp where REGEXP_LIKE(ename,'^A.*S$|^..?N')and REGEXP_LIKE(ename,'.*N$|.*S$');

    EMPNO ENAME      JOB           MGR HIREDATE      SAL     COMM     DEPTNO
---------- ---------- --------- ---------- -------- ---------- ---------- ----------
     7566 JONES      MANAGER      7839 02-APR-81    2975                  20
     7876 ADAMS      CLERK        7788 12-JAN-83    1100                  20
```

12.   List the names of the emp having '_' character in their name.

```
SQL> select * from emp where REGEXP_LIKE(ename,'_');

no rows selected
```

Group functions

1. Display the Highest, Lowest, Total & Average salary of all employee. Label the columns
    Maximum, Minimum, Total and Average respectively for each Department. Also round the
    result to the nearest whole number.

```
SQL> select max(sal) MAXIMUM,min(sal) MINIMUM,round(avg(sal),2)AVERAGE,sum(sal)TOTAL from emp;

   MAXIMUM    MINIMUM    AVERAGE      TOTAL
---------- ---------- ---------- ----------
      5000        800    2073.21      29025
```

2. Display Department no and number of managers working in that department. Label the column as 'Total Number of Managers' for each department.

```
SQL> select deptno,job,count(job) Total_Number_of_Managers from emp where job='MANAGER' group by deptno,job ;

    DEPTNO JOB       TOTAL_NUMBER_OF_MANAGERS
---------- --------- ------------------------
        20 MANAGER                          1
        30 MANAGER                          1
        10 MANAGER                          1
```

3. Get the Department number, and sum of Salary of all non managers where the sum is greater than 20000.

```
SQL> select deptno,job,sum(sal) from emp where job!='MANAGER' group by deptno,job having sum(sal)>20000 ;

no rows selected
```