SQL QUERIES

Display two tables EMP and DEPT in SQL and solve the following queries :

```
SQL> select * from emp;

     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
      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
      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
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10

SQL> select * from dept;

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

(1) Display a report, showing ename,empno,job,sal,bonus (10 % sal) for all employee in descending order of ename.

```
SQL>  select empno,ename,job,sal,sal*10/100 "Bonus" from emp order by ename desc;

     EMPNO ENAME      JOB              SAL      Bonus
---------- ---------- --------- ---------- ----------
      7521 WARD       SALESMAN        1250        125
      7844 TURNER     SALESMAN        1500        150
      7369 SMITH      CLERK            800         80
      7788 SCOTT      ANALYST         3000        300
      7934 MILLER     CLERK           1300        130
      7654 MARTIN     SALESMAN        1250        125
      7839 KING       PRESIDENT       5000        500
      7566 JONES      MANAGER         2975      297.5
      7900 JAMES      CLERK            950         95
      7902 FORD       ANALYST         3000        300
      7782 CLARK      MANAGER         2450        245

     EMPNO ENAME      JOB              SAL      Bonus
---------- ---------- --------- ---------- ----------
      7698 BLAKE      MANAGER         2850        285
      7499 ALLEN      SALESMAN        1600        160
      7876 ADAMS      CLERK           1100        110

14 rows selected.
```

(2) Display all details of all employee whose name starts with alphabet " A ".

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

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN        7698 20-FEB-81       1600        300         30
      7876 ADAMS      CLERK           7788 23-MAY-87       1100                    20
```

(3) Write a query to calculate the number of employees,sum of their salary and average of their salary from EMP table.

```
SQL> SELECT COUNT(*),SUM(SAL),AVG(SAL) FROM EMP;

  COUNT(*)   SUM(SAL)   AVG(SAL)
---------- ---------- ----------
        14      29025 2073.21429
```

(4) Calculate the number of employees in each grade (JOB).

```
SQL> SELECT JOB,COUNT(*) FROM EMP GROUP BY JOB;

JOB         COUNT(*)
--------- ----------
CLERK              4
SALESMAN           4
PRESIDENT          1
MANAGER            3
ANALYST            2
```

(5) Display department no, dname, employee number, employee name, job and salary. Display the details only for employees earning at least 1500 and of SALES department.

```
SQL> SELECT DEPT.DEPTNO,DNAME,EMPNO,ENAME,JOB,SAL FROM EMP,DEPT
  2  WHERE EMP.DEPTNO=DEPT.DEPTNO AND SAL<1500 AND JOB='SALESMAN';

    DEPTNO DNAME              EMPNO ENAME      JOB              SAL
---------- -------------- ---------- ---------- --------- ----------
        30 SALES                7521 WARD       SALESMAN        1250
        30 SALES                7654 MARTIN     SALESMAN        1250
```

(6) Display employee details with their location for ANALYST.(Use Natural Join)

```
SQL> SELECT * FROM EMP NATURAL JOIN DEPT WHERE JOB='ANALYST';

DEPTNO      EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM DNAME          LOC
------ ---------- ---------- --------- ---------- --------- ---------- ---------- -------------- -------
    20       7788 SCOTT      ANALYST         7566 19-APR-87       3000            RESEARCH       DALLAS
    20       7902 FORD       ANALYST         7566 03-DEC-81       3000            RESEARCH       DALLAS
```

(7) Display ename and location with their salary for the employee whose commission is NULL.

```
SQL> SELECT ENAME,LOC,SAL FROM EMP,DEPT WHERE EMP.DEPTNO=DEPT.DEPTNO AND COMM IS NULL;

ENAME      LOC                 SAL
---------- ------------- ----------
MILLER     NEW YORK            1300
CLARK      NEW YORK            2450
KING       NEW YORK            5000
JONES      DALLAS              2975
SMITH      DALLAS               800
SCOTT      DALLAS              3000
FORD       DALLAS              3000
ADAMS      DALLAS              1100
JAMES      CHICAGO              950
BLAKE      CHICAGO             2850

10 rows selected.
```

(8)Write a query to display the sum,average,highest,and lowest commision of employees group by department number .(Also consider NULL values for average)

```
SQL> SELECT DEPTNO,SUM(COMM),AVG(NVL(COMM,0)),MIN(COMM),MAX(COMM) FROM EMP GROUP BY DEPTNO;

    DEPTNO  SUM(COMM) AVG(NVL(COMM,0))  MIN(COMM)  MAX(COMM)
---------- ---------- ---------------- ---------- ----------
        30       2200       366.666667          0       1400
        20                           0
        10                           0
```

(9) Write a query to display the number of employees with the same job.

```
SQL> SELECT JOB,COUNT(*) FROM EMP GROUP BY JOB;

JOB         COUNT(*)
--------- ----------
CLERK              4
SALESMAN           4
PRESIDENT          1
MANAGER            3
ANALYST            2
```

(10) Write a query to create equijoin both tables and display employee name and department name along with deptno and filter records for deptno=10.

```
SQL> SELECT EMP.DEPTNO,ENAME,LOC FROM  EMP,DEPT WHERE EMP.DEPTNO=DEPT.DEPTNO AND DEPT.DEPTNO=10;

    DEPTNO ENAME      LOC
---------- ---------- -------------
        10 CLARK      NEW YORK
        10 KING       NEW YORK
        10 MILLER     NEW YORK
```

(11) Count the number of employees and sum of salaries in each group of dept number.

```
SQL> SELECT DEPTNO,COUNT(*),SUM(SAL) FROM EMP GROUP BY DEPTNO;

    DEPTNO   COUNT(*)   SUM(SAL)
---------- ---------- ----------
        30          6       9400
        20          5      10875
        10          3       8750
```

(12)Use the abbreviation 'E' for EMP and 'D' for DEPT and display DEPTNO, "ANNUAL SALARY" and DNAME.Also sort all records by descending order of ename.

```
SQL>  SELECT E.DEPTNO,SAL*12 AS "ANNUAL SALARY",DNAME FROM EMP E,DEPT D
  2  WHERE E.DEPTNO=D.DEPTNO ORDER BY ENAME DESC;

    DEPTNO ANNUAL SALARY DNAME
---------- ------------- --------------
        30         15000 SALES
        30         18000 SALES
        20          9600 RESEARCH
        20         36000 RESEARCH
        10         15600 ACCOUNTING
        30         15000 SALES
        10         60000 ACCOUNTING
        20         35700 RESEARCH
        30         11400 SALES
        20         36000 RESEARCH
        10         29400 ACCOUNTING
        30         34200 SALES
        30         19200 SALES
        20         13200 RESEARCH
```

(13)Write a query to display ename and location of employees whose commission contain NULL values.

```
SQL> SELECT ENAME,LOC FROM EMP,DEPT WHERE EMP.DEPTNO=DEPT.DEPTNO AND COMM IS NULL;

ENAME      LOC
---------- -------------
MILLER     NEW YORK
CLARK      NEW YORK
KING       NEW YORK
JONES      DALLAS
SMITH      DALLAS
SCOTT      DALLAS
FORD       DALLAS
ADAMS      DALLAS
JAMES      CHICAGO
BLAKE      CHICAGO
```

(14)Insert following data in DEPT table: 50,MARKETING,BANGLORE

```
SQL> INSERT INTO DEPT VALUES(50,'MARKETING','BANGLORE');

1 row created.

SQL> SELECT * FROM DEPT;

    DEPTNO DNAME          LOC
---------- -------------- -------------
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS     BOSTON
        50 MARKETING      BANGLORE
```

(15)Write a query to increase salary of employees by 10 % for MANAGER.

```
SQL>  UPDATE EMP SET SAL=SAL+(SAL*0.1) WHERE JOB='MANAGER';

3 rows updated.

SQL> SELECT ENAME,JOB,SAL FROM EMP WHERE JOB='MANAGER';

ENAME      JOB              SAL
---------- --------- ----------
JONES      MANAGER       3272.5
BLAKE      MANAGER         3135
CLARK      MANAGER         2695
```