DBMS ASSIGNMENT

4 . (Exercise on order by and group by clauses)
Create Sales table with the following fields(Sales No, Salesname, Branch, Salesamount, DOB)
    (a) Insert five records
    (b) Calculate total salesamount in each branch
    (c) Calculate average salesamount in each branch .
    (d) Display all the salesmen, DOB who are born in the month of December as day in character format i.e. 21-Dec-09
    (e) Display the name and DOB of salesman in alphabetical order of the month.

```
mysql> CREATE TABLE Sales (
    ->    SalesNo INT PRIMARY KEY,
    ->    Salesname VARCHAR(50),
    ->    Branch VARCHAR(50),
    ->    Salesamount DECIMAL(10,2),
    ->    DOB DATE
    -> );
```

```
mysql> desc Sales;
+-------------+---------------+------+-----+---------+-------+
| Field       | Type          | Null | Key | Default | Extra |
+-------------+---------------+------+-----+---------+-------+
| SalesNo     | int           | NO   | PRI | NULL    |       |
| Salesname   | varchar(50)   | YES  |     | NULL    |       |
| Branch      | varchar(50)   | YES  |     | NULL    |       |
| Salesamount | decimal(10,2) | YES  |     | NULL    |       |
| DOB         | date          | YES  |     | NULL    |       |
+-------------+---------------+------+-----+---------+-------+
5 rows in set (0.01 sec)
```

```
mysql> INSERT INTO Sales VALUES (1, 'John Smith', 'Branch A', 1000.00, '1990-01-01');
mysql> INSERT INTO Sales VALUES (2, 'Jane Doe', 'Branch B', 1500.00, '1995-03-15');
mysql> INSERT INTO Sales VALUES (3, 'Bob Johnson', 'Branch A', 2000.00, '1992-12-10');
mysql> INSERT INTO Sales VALUES (4, 'Sarah Lee', 'Branch C', 500.00, '1998-06-20');
mysql> INSERT INTO Sales VALUES (5, 'Tom Brown', 'Branch B', 3000.00, '1991-12-31');
```

```
mysql> select * from Sales;
+---------+-------------+----------+-------------+------------+
| SalesNo | Salesname   | Branch   | Salesamount | DOB        |
+---------+-------------+----------+-------------+------------+
|       1 | John Smith  | Branch A |     1000.00 | 1990-01-01 |
|       2 | Jane Doe    | Branch B |     1500.00 | 1995-03-15 |
|       3 | Bob Johnson | Branch A |     2000.00 | 1992-12-10 |
|       4 | Sarah Lee   | Branch C |      500.00 | 1998-06-20 |
|       5 | Tom Brown   | Branch B |     3000.00 | 1991-12-31 |
+---------+-------------+----------+-------------+------------+
5 rows in set (0.00 sec)
```

mysql> SELECT Branch, SUM(Salesamount) AS TotalSales
    -> FROM Sales
    -> GROUP BY Branch;

```
+----------+------------+
| Branch   | TotalSales |
+----------+------------+
| Branch A |    3000.00 |
| Branch B |    4500.00 |
| Branch C |     500.00 |
+----------+------------+
3 rows in set (0.00 sec)
```

mysql> SELECT Branch, AVG(Salesamount) AS AvgSales
    -> FROM Sales
    -> GROUP BY Branch;

```
+----------+-------------+
| Branch   | AvgSales    |
+----------+-------------+
| Branch A | 1500.000000 |
| Branch B | 2250.000000 |
| Branch C |  500.000000 |
+----------+-------------+
3 rows in set (0.00 sec)
```
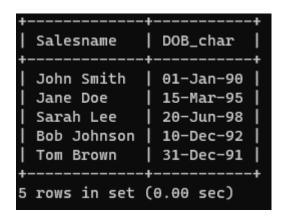
mysql> SELECT Salesname, DATE_FORMAT(DOB, '%d-%b-%y') AS DOB_char
    -> FROM Sales
    -> WHERE MONTH(DOB) = 12;

```
+-------------+-----------+
| Salesname   | DOB_char  |
+-------------+-----------+
| Bob Johnson | 10-Dec-92 |
| Tom Brown   | 31-Dec-91 |
+-------------+-----------+
2 rows in set (0.00 sec)
```

```
mysql> SELECT Salesname, DATE_FORMAT(DOB, '%d-%b-%y') AS DOB_char
    -> FROM Sales
    -> ORDER BY MONTH(DOB), Salesname;
```

```
+-------------+-----------+
| Salesname   | DOB_char  |
+-------------+-----------+
| John Smith  | 01-Jan-90 |
| Jane Doe    | 15-Mar-95 |
| Sarah Lee   | 20-Jun-98 |
| Bob Johnson | 10-Dec-92 |
| Tom Brown   | 31-Dec-91 |
+-------------+-----------+
5 rows in set (0.00 sec)
```

7. Using Employee Database perform the following queries
a) Determine the names of employee, who earn more than their managers.
b) Determine the names of employees, who take highest salary in their departments.
c) Determine the employees, who are located at the same place.
d) Determine the employees, whose total salary is like the minimum Salary of any department.
e) Determine the department which does not contain any employees.

```
mysql> CREATE TABLE Dept (
    ->   deptno INT PRIMARY KEY,
    ->   dname VARCHAR(50),
    ->   loc VARCHAR(50)
    -> );
```

```
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| deptno | int         | NO   | PRI | NULL    |       |
| dname  | varchar(50) | YES  |     | NULL    |       |
| loc    | varchar(50) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

```
mysql> CREATE TABLE Emp (
    ->   empno INT PRIMARY KEY,
    ->   ename VARCHAR(50),
    ->   job VARCHAR(50),
    ->   mgr INT,
    ->   hiredate DATE,
    ->   sal DECIMAL(10,2),
    ->   comm DECIMAL(10,2),
    ->   deptno INT,
```
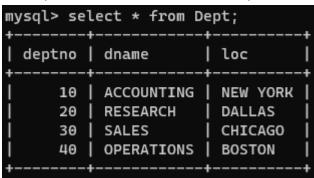
```
    ->  FOREIGN KEY (deptno) REFERENCES Dept(deptno)
    -> );
```

```
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| empno     | int          | NO   | PRI | NULL    |       |
| ename     | varchar(50)  | YES  |     | NULL    |       |
| job       | varchar(50)  | YES  |     | NULL    |       |
| mgr       | int          | YES  |     | NULL    |       |
| hiredate  | date         | YES  |     | NULL    |       |
| sal       | decimal(10,2)| YES  |     | NULL    |       |
| comm      | decimal(10,2)| YES  |     | NULL    |       |
| deptno    | int          | YES  | MUL | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
```

mysql> INSERT INTO Dept (deptno, dname, loc) VALUES
    ->   (10, 'ACCOUNTING', 'NEW YORK'),
    ->   (20, 'RESEARCH', 'DALLAS'),
    ->   (30, 'SALES', 'CHICAGO'),
    ->   (40, 'OPERATIONS', 'BOSTON');

```
mysql> select * from Dept;
+--------+------------+----------+
| deptno | dname      | loc      |
+--------+------------+----------+
|     10 | ACCOUNTING | NEW YORK |
|     20 | RESEARCH   | DALLAS   |
|     30 | SALES      | CHICAGO  |
|     40 | OPERATIONS | BOSTON   |
+--------+------------+----------+
```

mysql> INSERT INTO Emp (empno, ename, job, mgr, hiredate, sal, comm, deptno) VALUES
    ->   (7369, 'SMITH', 'CLERK', 7902, '1980-12-17', 800, NULL, 20),
    ->   (7499, 'ALLEN', 'SALESMAN', 7698, '1981-02-20', 1600, 300, 30),
    ->   (7521, 'WARD', 'SALESMAN', 7698, '1981-02-22', 1250, 500, 30),
    ->   (7566, 'JONES', 'MANAGER', 7839, '1981-04-02', 2975, NULL, 20),
    ->   (7654, 'MARTIN', 'SALESMAN', 7698, '1981-09-28', 1250, 1400, 30),
    ->   (7698, 'BLAKE', 'MANAGER', 7839, '1981-05-01', 2850, NULL, 30),
    ->   (7782, 'CLARK', 'MANAGER', 7839, '1981-06-09', 2450, NULL, 10),
    ->   (7788, 'SCOTT', 'ANALYST', 7566, '1982-12-09', 3000, NULL, 20),
    ->   (7839, 'KING', 'PRESIDENT', NULL, '1981-11-17', 5000, NULL, 10),
    ->   (7844, 'TURNER', 'SALESMAN', 7698, '1981-09-08', 1500, 0, 30),
    ->   (7876, 'ADAMS', 'CLERK', 7788, '1983-01-12', 1100, NULL, 20),
    ->   (7900, 'JAMES', 'CLERK', 7698, '1981-12-03', 950, NULL, 30),
    ->   (7902, 'FORD', 'ANALYST', 7566, '1981-12-03', 3000, NULL, 20),
    ->   (7934, 'MILLER', 'CLERK', 7782, '1982-01-23', 1300, NULL, 10);

```
mysql> select * from Emp;
+--------+--------+-----------+------+------------+---------+---------+--------+
| empno  | ename  | job       | mgr  | hiredate   | sal     | comm    | deptno |
+--------+--------+-----------+------+------------+---------+---------+--------+
|   7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 |    NULL |     20 |
|   7499 | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 |
|   7521 | WARD   | SALESMAN  | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|   7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 |
|   7654 | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|   7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 |
|   7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 |    NULL |     10 |
|   7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|   7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 |    NULL |     10 |
|   7844 | TURNER | SALESMAN  | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 |
|   7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 |
|   7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 |    NULL |     30 |
|   7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 |    NULL |     20 |
|   7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 |
+--------+--------+-----------+------+------------+---------+---------+--------+
```

mysql> SELECT e.ename
    -> FROM Emp e
    -> INNER JOIN Emp m ON e.mgr = m.empno
    -> WHERE e.sal > m.sal;

```
+-------+
| ename |
+-------+
| SCOTT |
| FORD  |
+-------+
```
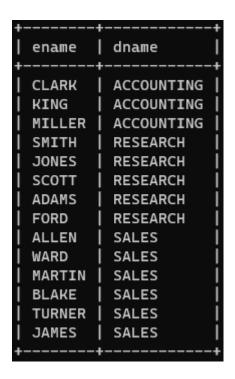
mysql> SELECT e.ename
    -> FROM Emp e
    -> WHERE e.sal = (
    ->   SELECT MAX(sal)
    ->   FROM Emp
    ->   WHERE deptno = e.deptno
    ->);

```
+-------+
| ename |
+-------+
| BLAKE |
| SCOTT |
| KING  |
| FORD  |
+-------+
```

mysql> select ename,dname from emp , dept where emp.deptno=dept.deptno order by dname;

```
+--------+------------+
| ename  | dname      |
+--------+------------+
| CLARK  | ACCOUNTING |
| KING   | ACCOUNTING |
| MILLER | ACCOUNTING |
| SMITH  | RESEARCH   |
| JONES  | RESEARCH   |
| SCOTT  | RESEARCH   |
| ADAMS  | RESEARCH   |
| FORD   | RESEARCH   |
| ALLEN  | SALES      |
| WARD   | SALES      |
| MARTIN | SALES      |
| BLAKE  | SALES      |
| TURNER | SALES      |
| JAMES  | SALES      |
+--------+------------+
```

mysql> select empno, ename, sal from emp where sal in(select min(sal) from emp group by
    -> deptno);

```
+-------+--------+---------+
| empno | ename  | sal     |
+-------+--------+---------+
|  7369 | SMITH  |  800.00 |
|  7900 | JAMES  |  950.00 |
|  7934 | MILLER | 1300.00 |
+-------+--------+---------+
```

mysql> select dname from dept where deptno not in(select deptno from emp);
```
+------------+
| dname      |
+------------+
| OPERATIONS |
+------------+
```