Assignment - 3

Create a database called COMPANY consisting of 2 tables:-
1) EMP
2) DEPT

EMP Table Fields:

Column name	Data type	Description
EMPNO	Number	Employee number
ENAME	Varchar	Employee name
JOB	Char	Designation
MGR	Number	Manager's Emp. number
HIREDATE	Date	Date of joining
SAL	Number	Basic Salary
COMM	Number	Commission
DEPTNO	Number	Department Number

```
mysql> CREATE TABLE emp (
    -> eno INT NOT NULL,
    -> ename VARCHAR(50) NOT NULL,
    -> job VARCHAR(50) NOT NULL,
    -> MGR INT,
    -> hiredate DATE NOT NULL,
    -> salary INT NOT NULL,
    -> commission INT NOT NULL,
    -> deptno INT ,
    -> PRIMARY KEY (eno),
    -> FOREIGN KEY (deptno) REFERENCES dept(deptno) ON DELETE
CASCADE
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> insert into emp values
```

```
    -> (7268, 'Eela', 'Employee', 7374, '2020-01-12', 200, 0, 1),
    -> (7312, 'Samay', 'Employee', 7372, '2020-01-12', 200, 0, 1),
    -> (7315, 'Aman', 'Employee', 7374, '2021-02-12', 200, 0, 10),
    -> (7345, 'Sunil', 'Employee', 7373, '2021-02-12', 200, 0, 10),
    -> (7369, 'Smit', 'BOSS', NULL, '2017-12-20', 800, 300, NULL),
    -> (7370, 'Anuj', 'Senior Manager', 7369, '2020-12-20', 600, 300, 20),
    -> (7371, 'Anup', 'Senior Manager', 7369, '2020-11-20', 600, 200, 20),
    -> (7372, 'Jay', 'Manager', 7370, '2020-02-20', 400, 200, 20),
    -> (7373, 'Amit', 'Manager', 7370, '2021-03-20', 400, 200, 20),
    -> (7374, 'Ajay', 'Manager', 7371, '2020-01-20', 400, 200, 30),
    -> (7375, 'jaggu', 'Manager', 7371, '2020-04-21', 400, 200, 30),
    -> (7376, 'Sumit', 'Employee', 7372, '2021-02-12', 200, 0, 40),
    -> (7568, 'Danish', 'Employee', 7373, '2020-01-12', 200, 0, 40),
    -> (7615, 'Vijay', 'Employee', 7375, '2021-02-12', 200, 0, 10),
    -> (7728, 'Era', 'Employee', 7375, '2020-01-12', 200, 0, 1);
Query OK, 15 rows affected (0.01 sec)
Records: 15  Duplicates: 0  Warnings: 0

mysql> select * from emp;
+------+--------+---------------+------+------------+--------+------------+--------+
| eno  | ename  | job           | MGR  | hiredate   | salary | commission | deptno |
+------+--------+---------------+------+------------+--------+------------+--------+
| 7268 | Eela   | Employee      | 7374 | 2020-01-12 |    200 |          0 |      1 |
| 7312 | Samay  | Employee      | 7372 | 2020-01-12 |    200 |          0 |      1 |
| 7315 | Aman   | Employee      | 7374 | 2021-02-12 |    200 |          0 |     10 |
| 7345 | Sunil  | Employee      | 7373 | 2021-02-12 |    200 |          0 |     10 |
| 7369 | Smit   | BOSS          | NULL | 2017-12-20 |    800 |        300 |   NULL |
| 7370 | Anuj   | Senior Manager | 7369 | 2020-12-20 |    600 |        300 |     20 |
| 7371 | Anup   | Senior Manager | 7369 | 2020-11-20 |    600 |        200 |     20 |
| 7372 | Jay    | Manager       | 7370 | 2020-02-20 |    400 |        200 |     20 |
| 7373 | Amit   | Manager       | 7370 | 2021-03-20 |    400 |        200 |     20 |
| 7374 | Ajay   | Manager       | 7371 | 2020-01-20 |    400 |        200 |     30 |
| 7375 | jaggu  | Manager       | 7371 | 2020-04-21 |    400 |        200 |     30 |
| 7376 | Sumit  | Employee      | 7372 | 2021-02-12 |    200 |          0 |     40 |
| 7568 | Danish | Employee      | 7373 | 2020-01-12 |    200 |          0 |     40 |
```

```
| 7615 | Vijay  | Employee       | 7375 | 2021-02-12 |    200 |          0 |     10 |
| 7728 | Era    | Employee       | 7375 | 2020-01-12 |    200 |          0 |      1 |
+------+--------+----------------+------+------------+--------+------------+--------+
15 rows in set (0.00 sec)
```

DEPT Table Fields:-

Column name	Data type	Description
DEPTNO	Number	Department number
DNAME	Varchar	Department name
LOC	Varchar	Location of department

```
CREATE TABLE dept (
  Deptno INT NOT NULL PRIMARY KEY,
  Dname VARCHAR(10) NOT NULL,
  Loc VARCHAR(10) NOT NULL
);
```

```
mysql> desc dept;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| Deptno | int         | NO   | PRI | NULL    |       |
| Dname  | varchar(10) | NO   |     | NULL    |       |
| Loc    | varchar(10) | NO   |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
INSERT INTO dept (Deptno, Dname, Loc) VALUES
(1, 'RECRUITER', 'VEGAS'),
(10, 'ACCOUNTING', 'NEW YORK'),
(20, 'RESEARCH', 'DALLAS'),
(30, 'SALES', 'CHICAGO'),
```

(40, 'OPERATIONS', 'BOSTON');

```
mysql> select * from dept;
+--------+------------+----------+
| Deptno | Dname      | Loc      |
+--------+------------+----------+
|      1 | RECRUITER  | VEGAS    |
|     10 | ACCOUNTING | NEW YORK |
|     20 | RESEARCH   | DALLAS   |
|     30 | SALES      | CHICAGO  |
|     40 | OPERATIONS | BOSTON   |
+--------+------------+----------+
5 rows in set (0.00 sec)
```

Queries

1) List the number of employees and average salary for employees in department 20.

```
mysql> SELECT COUNT(*) AS num_employees, AVG(Salary) AS avg_salary
    -> FROM emp
    -> WHERE DeptNO = 20;
+---------------+------------+
| num_employees | avg_salary |
+---------------+------------+
|             4 |   500.0000 |
+---------------+------------+
1 row in set (0.01 sec)
```

2) 2) List name, salary and PF amount of all employees. (PF is calculated as 10% of basic salary)

```
mysql> SELECT Ename, Salary, (Salary*0.1) as PF_amount FROM emp;
+--------+--------+-----------+
| Ename  | Salary | PF_amount |
+--------+--------+-----------+
```

Eela	200	20.0
Samay	200	20.0
Aman	200	20.0
Sunil	200	20.0
Smit	800	80.0
Anuj	600	60.0
Anup	600	60.0
Jay	400	40.0
Amit	400	40.0
Ajay	400	40.0
jaggu	400	40.0
Sumit	200	20.0
Danish	200	20.0
Vijay	200	20.0
Era	200	20.0
+--------+--------+-----------+
15 rows in set (0.01 sec)

3) List the employee details in the ascending order of their basic salary.

mysql> SELECT * FROM emp ORDER BY Salary ASC;

+------+--------+---------------+------+------------+--------+------------+--------+
| eno | ename | job | MGR | hiredate | salary | commission | deptno |
+------+--------+---------------+------+------------+--------+------------+--------+
7268	Eela	Employee	7374	2020-01-12	200	0	1
7312	Samay	Employee	7372	2020-01-12	200	0	1
7315	Aman	Employee	7374	2021-02-12	200	0	10
7345	Sunil	Employee	7373	2021-02-12	200	0	10
7376	Sumit	Employee	7372	2021-02-12	200	0	40
7568	Danish	Employee	7373	2020-01-12	200	0	40
7615	Vijay	Employee	7375	2021-02-12	200	0	10
7728	Era	Employee	7375	2020-01-12	200	0	1
7372	Jay	Manager	7370	2020-02-20	400	200	20
7373	Amit	Manager	7370	2021-03-20	400	200	20
7374	Ajay	Manager	7371	2020-01-20	400	200	30
7375	jaggu	Manager	7371	2020-04-21	400	200	30

```
| 7370 | Anuj   | Senior Manager | 7369 | 2020-12-20 |    600 |       300 |     20 |
| 7371 | Anup   | Senior Manager | 7369 | 2020-11-20 |    600 |       200 |     20 |
| 7369 | Smit   | BOSS           | NULL | 2017-12-20 |    800 |       300 |   NULL |
+------+--------+----------------+------+------------+--------+-----------+--------+
15 rows in set (0.00 sec)
```

4) List the employee name and hire date in the descending order of the hire date.

```
mysql> SELECT Ename, HireDate FROM emp ORDER BY HireDate DESC;
+--------+------------+
| Ename  | HireDate   |
+--------+------------+
| Amit   | 2021-03-20 |
| Aman   | 2021-02-12 |
| Sunil  | 2021-02-12 |
| Sumit  | 2021-02-12 |
| Vijay  | 2021-02-12 |
| Anuj   | 2020-12-20 |
| Anup   | 2020-11-20 |
| jaggu  | 2020-04-21 |
| Jay    | 2020-02-20 |
| Ajay   | 2020-01-20 |
| Eela   | 2020-01-12 |
| Samay  | 2020-01-12 |
| Danish | 2020-01-12 |
| Era    | 2020-01-12 |
| Smit   | 2017-12-20 |
+--------+------------+
15 rows in set (0.00 sec)
```

5) List employee name, salary, PF, HRA, DA and gross; order the results in the ascending order of gross. HRA is 50% of the salary and DA is 30% of the salary.

```
mysql> SELECT Ename, Salary, (Salary*0.1) as PF_amount, (Salary*0.5) as
HRA, (Salary*0.3) as DA, ((Salary*0.5)+(Salary*0.3)+Salary) as Gross FROM
emp ORDER BY Gross ASC;
+--------+--------+-----------+-------+-------+--------+
```

Ename	Salary	PF_amount	HRA	DA	Gross
Eela	200	20.0	100.0	60.0	360.0
Samay	200	20.0	100.0	60.0	360.0
Aman	200	20.0	100.0	60.0	360.0
Sunil	200	20.0	100.0	60.0	360.0
Sumit	200	20.0	100.0	60.0	360.0
Danish	200	20.0	100.0	60.0	360.0
Vijay	200	20.0	100.0	60.0	360.0
Era	200	20.0	100.0	60.0	360.0
Jay	400	40.0	200.0	120.0	720.0
Amit	400	40.0	200.0	120.0	720.0
Ajay	400	40.0	200.0	120.0	720.0
jaggu	400	40.0	200.0	120.0	720.0
Anuj	600	60.0	300.0	180.0	1080.0
Anup	600	60.0	300.0	180.0	1080.0
Smit	800	80.0	400.0	240.0	1440.0

15 rows in set (0.01 sec)

6) List the department numbers and number of employees in each department.

```
mysql> SELECT Deptno, COUNT(*) as num_employees FROM emp GROUP BY Deptno;
```

Deptno	num_employees
NULL	1
1	3
10	3
20	4
30	2
40	2

6 rows in set (0.00 sec)

7) Increment the Salary of salesman by 10% of basic salary.
mysql> UPDATE emp SET Salary = Salary + (Salary*0.1) WHERE Job = 'MANAGER';
Query OK, 4 rows affected (0.01 sec)
Rows matched: 4 Changed: 4 Warnings: 0

8) 8) List the total salary, maximum and minimum salary and average salary of the employees, for department 20.
mysql> SELECT SUM(Salary) as Total_Salary, MAX(Salary) as Maximum_Salary, MIN(Salary) as Minimum_Salary, AVG(Salary) as Average_Salary FROM emp WHERE Deptno = 20;

Total_Salary	Maximum_Salary	Minimum_Salary	Average_Salary
2080	600	440	520.0000

1 row in set (0.01 sec)

9) List the employees whose names contains 3rd letter as ‘I’.
mysql> SELECT * FROM emp WHERE Ename LIKE '__i%';

eno	ename	job	MGR	hiredate	salary	commission	deptno
7369	Smit	BOSS	NULL	2017-12-20	800	300	NULL
7373	Amit	Manager	7370	2021-03-20	440	200	20

2 rows in set (0.00 sec)

10) List the maximum salary paid to a salesman.
mysql> SELECT MAX(Salary) as Maximum_Salary FROM emp WHERE Job = 'SALESMAN';

Maximum_Salary
NULL

+----------------+
1 row in set (0.00 sec)

11) Increase the salary of salesman by 10% of their current salary.
mysql> UPDATE emp SET Salary = Salary + (Salary*0.1) WHERE Job = 'SENIOR MANAGER';
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2 Changed: 2 Warnings: 0