DBMS

PRACTICAL QUESTION 1

SUBMISSION BY-SIMRAN DUREJA

Create the following database schema EMP-DEPT with all specified constraints and use it to answer the given queries.

EMPLOYEE Schema

Field Type NULL KEY DEFAULT

Eno Char(3) NO PRI NIL

Ename Varchar(50)NO NIL

Job_type Varchar(50) NO NIL

SupervisonENO Char(3) Yes FK NIL

Hire_date Date NO NIL

Dno Integer YES FK NIL

Commission Decimal(10,2) YES NIL

Salary Decimal(7,2) NO NIL

DEPARTMENT Schema

Dno Integer No PRI NULL

Dname Varchar(50) Yes NULL

Location Varchar(50) Yes New Delhi

 # As per the given queries , the data values might be different but the meaning remains the same.

MySQL 8.0 Command Line Client

```
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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database office;
Query OK, 1 row affected (0.08 sec)

mysql> use office;
Database changed
mysql> CREATE TABLE Department (
    ->     Dno      INT          NOT NULL,
    ->     Dname    VARCHAR (50),
    ->     Location VARCHAR (50) DEFAULT ('New Delhi'),
    ->     PRIMARY KEY (
    ->         Dno
    ->     )
    -> );
Query OK, 0 rows affected (2.09 sec)
```

```
mysql>
mysql> Create table Employee
    -> ( Eno CHAR(3) NOT NULL,
    ->   Ename VARCHAR(50) NOT NULL,
    ->   Job_type VARCHAR(50) NOT NULL,
    ->   SupervisonENO CHAR(3) NULL,
    ->   Hire_date DATE NOT NULL,
    ->   Dno INTEGER NULL,
    ->   Commission DECIMAL(10,2) NULL,
    ->   Salary DECIMAL(7,2) NOT NULL,
    ->   PRIMARY KEY (Eno));
Query OK, 0 rows affected (0.22 sec)
```

```
mysql> alter table Employee
    -> add constraint C
    -> foreign key (Dno)
    -> references Department (Dno),
    -> add constraint C1
    -> foreign key (SupervisonENO)
    -> references Employee (Eno);
Query OK, 0 rows affected (0.85 sec)
```

```
mysql> desc employee;
+---------------+---------------+------+-----+---------+-------+
| Field         | Type          | Null | Key | Default | Extra |
+---------------+---------------+------+-----+---------+-------+
| Eno           | char(3)       | NO   | PRI | NULL    |       |
| Ename         | varchar(50)   | NO   |     | NULL    |       |
| Job_type      | varchar(50)   | NO   |     | NULL    |       |
| SupervisonENO | char(3)       | YES  | MUL | NULL    |       |
| Hire_date     | date          | NO   |     | NULL    |       |
| Dno           | int           | YES  | MUL | NULL    |       |
| Commission    | decimal(10,2) | YES  |     | NULL    |       |
| Salary        | decimal(7,2)  | NO   |     | NULL    |       |
+---------------+---------------+------+-----+---------+-------+
8 rows in set (0.13 sec)

mysql> desc department;
+----------+-------------+------+-----+---------------------+-------------------+
| Field    | Type        | Null | Key | Default             | Extra             |
+----------+-------------+------+-----+---------------------+-------------------+
| Dno      | int         | NO   | PRI | NULL                |                   |
| Dname    | varchar(50) | YES  |     | NULL                |                   |
| Location | varchar(50) | YES  |     | _cp850\'New Delhi\' | DEFAULT_GENERATED |
+----------+-------------+------+-----+---------------------+-------------------+
3 rows in set (0.00 sec)
```

```
mysql> INSERT INTO DEPARTMENT VALUES('001','SALES','DUBAI'),
    -> ('002','FINANCE','DALAS'),
    -> ('004','PRODUCTION','PARIS'),
    -> ('005','TECHNOLOGY','MUMBAI');
Query OK, 4 rows affected (0.27 sec)
```

```
mysql> INSERT INTO EMPLOYEE VALUES ('101', 'JOHN', 'MANAGER',NULL,'2012-03-01','001','1000','9000'),
    -> ('102', 'AVA', 'MANAGER',NULL,'2014-05-07','002','1000','10000'),
    -> ('103', 'MARY', 'MANAGER',NULL,'2014-11-25','003','1000','9500'),
    -> ('104', 'MIA', 'MANAGER',NULL,'2016-06-11','005','1000','9500'),
    -> ('105', 'WILLIAM', 'ACCOUNTANT','102','2017-08-15','002','500','6000'),
    -> ('106', 'MITCHELL', 'SALES REPRESENTATIVE','101','2019-09-21','001','400','8000'),
    ->  ('107', 'PETER', 'INTERN','106','2021-01-05','001','100','900'),
    -> ('108', 'PAUL', 'INTERN','103','2021-02-21','003','100','900');
Query OK, 8 rows affected (0.07 sec)
```

```
mysql> select * from employee;
+-----+----------+---------------------+--------------+------------+------+------------+----------+
| Eno | Ename    | Job_type            | SupervisonENO | Hire_date  | Dno  | Commission | Salary   |
+-----+----------+---------------------+--------------+------------+------+------------+----------+
| 101 | JOHN     | MANAGER             | NULL         | 2012-03-01 |    1 |    1000.00 |  9000.00 |
| 102 | AVA      | MANAGER             | NULL         | 2014-05-07 |    2 |    1000.00 | 10000.00 |
| 103 | MARY     | MANAGER             | NULL         | 2014-11-25 |    3 |    1000.00 |  9500.00 |
| 104 | MIA      | MANAGER             | NULL         | 2016-06-11 |    5 |    1000.00 |  9500.00 |
| 105 | WILLIAM  | ACCOUNTANT          | 102          | 2017-08-15 |    2 |     500.00 |  6000.00 |
| 106 | MITCHELL | SALES REPRESENTATIVE | 101          | 2019-09-21 |    1 |     400.00 |  8000.00 |
| 107 | PETER    | INTERN              | 106          | 2021-01-05 |    1 |     100.00 |   900.00 |
| 108 | PAUL     | INTERN              | 103          | 2021-02-21 |    3 |     100.00 |   900.00 |
+-----+----------+---------------------+--------------+------------+------+------------+----------+
8 rows in set (0.03 sec)

mysql> select * from department;
+-----+---------------+-----------+
| Dno | Dname         | Location  |
+-----+---------------+-----------+
|   1 | SALES         | DUBAI     |
|   2 | FINANCE       | DALAS     |
|   3 | HUMAN RESOURCE | New Delhi |
|   4 | PRODUCTION    | PARIS     |
|   5 | TECHNOLOGY    | MUMBAI    |
+-----+---------------+-----------+
5 rows in set (0.00 sec)
```

1. Query to display Employee Name, Job, Hire Date, Employee Number; for each employee with the Employee Number appearing first.

```
mysql> Select Eno,Ename,Job_type,Hire_date
    -> From Employee;                                          -- Q1
+-----+----------+----------------------+------------+
| Eno | Ename    | Job_type             | Hire_date  |
+-----+----------+----------------------+------------+
| 101 | JOHN     | MANAGER              | 2012-03-01 |
| 102 | AVA      | MANAGER              | 2014-05-07 |
| 103 | MARY     | MANAGER              | 2014-11-25 |
| 104 | MIA      | MANAGER              | 2016-06-11 |
| 105 | WILLIAM  | ACCOUNTANT           | 2017-08-15 |
| 106 | MITCHELL | SALES REPRESENTATIVE | 2019-09-21 |
| 107 | PETER    | INTERN               | 2021-01-05 |
| 108 | PAUL     | INTERN               | 2021-02-21 |
+-----+----------+----------------------+------------+
8 rows in set (0.00 sec)
```

2. Query to display unique Jobs from the Employee Table.

```
mysql> Select DISTINCT Job_type
    -> From Employee;                                          -- Q2
+----------------------+
| Job_type             |
+----------------------+
| MANAGER              |
| ACCOUNTANT           |
| SALES REPRESENTATIVE |
| INTERN               |
+----------------------+
4 rows in set (0.02 sec)
```

3. Query to display the Employee Name concatenated by a Job separated by a comma.

```
mysql> Select CONCAT(Ename, ',', Job_type) From Employee;                  -- Q3
+-------------------------------+
| CONCAT(Ename, ',', Job_type)  |
+-------------------------------+
| JOHN,MANAGER                  |
| AVA,MANAGER                   |
| MARY,MANAGER                  |
| MIA,MANAGER                   |
| WILLIAM,ACCOUNTANT            |
| MITCHELL,SALES REPRESENTATIVE |
| PETER,INTERN                  |
| PAUL,INTERN                   |
+-------------------------------+
8 rows in set (0.00 sec)
```

4. Query to display all the data from the Employee Table. Separate each Column by a comma and name the said column as THE_OUTPUT.

```
mysql> Select CONCAT(Eno, ',', Ename, ',', Job_type, ', ', SupervisonENO, ',' , Hire_date, ',' , Dno, ',' , Commission, ',' , Salary) AS THE_OUTPUT
    -> From employee;                                                    -- Q4
+-----------------------------------------------------------------+
| THE_OUTPUT                                                      |
+-----------------------------------------------------------------+
| NULL                                                            |
| NULL                                                            |
| NULL                                                            |
| NULL                                                            |
| 105,WILLIAM,ACCOUNTANT, 102,2017-08-15,2,500.00,6000.00         |
| 106,MITCHELL,SALES REPRESENTATIVE, 101,2019-09-21,1,400.00,8000.00 |
| 107,PETER,INTERN, 106,2021-01-05,1,100.00,900.00                |
| 108,PAUL,INTERN, 103,2021-02-21,3,100.00,900.00                 |
+-----------------------------------------------------------------+
8 rows in set (0.00 sec)
```

5. Query to display the Employee Name and Salary of all the employees earning more than 2850.

```
mysql> Select Ename,Salary
    -> from Employee
    -> where Salary>2850                                                -- Q5
    -> ;
+----------+----------+
| Ename    | Salary   |
+----------+----------+
| JOHN     |  9000.00 |
| AVA      | 10000.00 |
| MARY     |  9500.00 |
| MIA      |  9500.00 |
| WILLIAM  |  6000.00 |
| MITCHELL |  8000.00 |
+----------+----------+
6 rows in set (0.10 sec)
```

6. Query to display Employee Name and Department Number for the Employee No= 107.

```
mysql> Select Ename,Dno
    -> from Employee
    -> where Eno=107;                                          -- Q6
+-------+------+
| Ename | Dno  |
+-------+------+
| PETER |    1 |
+-------+------+
1 row in set (0.00 sec)
```

7. Query to display Employee Name and Salary for all employees whose salary is not in the range of $1500 and $2850.

```
mysql> Select Ename,Salary
    -> from Employee
    -> where Salary<1500 or Salary>2850;                       -- Q7
+----------+----------+
| Ename    | Salary   |
+----------+----------+
| JOHN     |  9000.00 |
| AVA      | 10000.00 |
| MARY     |  9500.00 |
| MIA      |  9500.00 |
| WILLIAM  |  6000.00 |
| MITCHELL |  8000.00 |
| PETER    |   900.00 |
| PAUL     |   900.00 |
+----------+----------+
8 rows in set (0.00 sec)
```

8. Query to display Employee Name and Department No. of all the employees in Dept 2 and Dept 4 in the alphabetical order by name.

```
mysql> Select Ename,Dno
    -> from Employee
    -> where Dno=2 or Dno=4
    -> order by Ename asc;                                     -- Q8
+---------+------+
| Ename   | Dno  |
+---------+------+
| AVA     |    2 |
| WILLIAM |    2 |
+---------+------+
2 rows in set (0.00 sec)
```

9. Query to display Name and Hire Date of every Employee who was hired in 2014.

```
mysql> Select Ename,Hire_Date
    -> from Employee
    -> where Hire_Date like '2014%';                                    -- Q9
+-------+------------+
| Ename | Hire_Date  |
+-------+------------+
| AVA   | 2014-05-07 |
| MARY  | 2014-11-25 |
+-------+------------+
2 rows in set (0.00 sec)
```

10. Query to display Name and Job of all employees who have not assigned a supervisor.

```
mysql> Select Ename,Job_type
    -> from Employee
    -> where SupervisonENO is NULL;                                    -- Q10
+-------+----------+
| Ename | Job_type |
+-------+----------+
| JOHN  | MANAGER  |
| AVA   | MANAGER  |
| MARY  | MANAGER  |
| MIA   | MANAGER  |
+-------+----------+
4 rows in set (0.00 sec)
```

11. Query to display the Name, Salary, and Commission for all the employees who earn a commission.

```
mysql> Select Ename,Salary,Commission
    -> from Employee
    -> where Commission>0;                                              -- Q11
+----------+----------+------------+
| Ename    | Salary   | Commission |
+----------+----------+------------+
| JOHN     |  9000.00 |    1000.00 |
| AVA      | 10000.00 |    1000.00 |
| MARY     |  9500.00 |    1000.00 |
| MIA      |  9500.00 |    1000.00 |
| WILLIAM  |  6000.00 |     500.00 |
| MITCHELL |  8000.00 |     400.00 |
| PETER    |   900.00 |     100.00 |
| PAUL     |   900.00 |     100.00 |
+----------+----------+------------+
8 rows in set (0.00 sec)
```

12. Sort the data in descending order of Salary and Commission.

```
mysql> Select Ename,Salary,Commission
    -> from Employee
    -> order by Salary Desc,Commission Desc;                    -- Q12
+----------+----------+------------+
| Ename    | Salary   | Commission |
+----------+----------+------------+
| AVA      | 10000.00 |    1000.00 |
| MARY     |  9500.00 |    1000.00 |
| MIA      |  9500.00 |    1000.00 |
| JOHN     |  9000.00 |    1000.00 |
| MITCHELL |  8000.00 |     400.00 |
| WILLIAM  |  6000.00 |     500.00 |
| PETER    |   900.00 |     100.00 |
| PAUL     |   900.00 |     100.00 |
+----------+----------+------------+
8 rows in set (0.00 sec)
```

13. Query to display Name of all the employees where the third letter of their name is ‘A’.

```
mysql> Select Ename
    -> from Employee
    -> where Ename like '__a%';                                 -- Q13
+-------+
| Ename |
+-------+
| AVA   |
| MIA   |
+-------+
2 rows in set (0.00 sec)
```

14. Query to display Name of all employees either have two ‘R’s or have two ‘A’s in their name and are either in Dept No = 2 or their Manager’s Employee No = 102.

```
mysql> Select Ename,Eno,Dno
    -> from Employee
    -> where Ename like '%r%r%' or Ename like '%a%a%' And Dno=2 or (Job_type="Manager" and Eno=102) ;        -- Q14
+-------+-----+------+
| Ename | Eno | Dno  |
+-------+-----+------+
| AVA   | 102 |    2 |
+-------+-----+------+
1 row in set (0.00 sec)
```

15. Query to display Name, Salary and Commission for all employees whose Salary amount is greater than their Commission increased by 5%.

```
mysql> select Ename, Salary Commission
    -> from employee
    ->  where commission > (Salary*0.05);                                    -- Q15
+---------+------------+
| Ename   | Commission |
+---------+------------+
| JOHN    |    9000.00 |
| AVA     |   10000.00 |
| MARY    |    9500.00 |
| MIA     |    9500.00 |
| WILLIAM |    6000.00 |
| PETER   |     900.00 |
| PAUL    |     900.00 |
+---------+------------+
7 rows in set (0.00 sec)
```

16. Query to display the Current Date along with the day name.

```
mysql> Select Curdate(), Dayname(Curdate());                                -- Q16
+------------+--------------------+
| Curdate()  | Dayname(Curdate()) |
+------------+--------------------+
| 2023-03-12 | Sunday             |
+------------+--------------------+
1 row in set (0.00 sec)
```

17. Query to display Name, Hire Date and Salary Review Date which is the 1st Monday after six months of employment.

```
mysql> Select Ename,Hire_date, date_add(date_add(Hire_date,INTERVAL 6 MONTH), INTERVAL (7-WEEKDAY(date_add(Hire_date,INTERVAL 6 MONTH))) DAY)
    -> AS REVIEW_DATE
    -> from Employee;                                                        -- Q17
+----------+-----------+-------------+
| Ename    | Hire_date | REVIEW_DATE |
+----------+-----------+-------------+
| JOHN     | 2012-03-01 | 2012-09-03  |
| AVA      | 2014-05-07 | 2014-11-10  |
| MARY     | 2014-11-25 | 2015-06-01  |
| MIA      | 2016-06-11 | 2016-12-12  |
| WILLIAM  | 2017-08-15 | 2018-02-19  |
| MITCHELL | 2019-09-21 | 2020-03-23  |
| PETER    | 2021-01-05 | 2021-07-12  |
| PAUL     | 2021-02-21 | 2021-08-23  |
+----------+-----------+-------------+
8 rows in set (0.00 sec)
```

18. Query to display Name and calculate the number of months between today and the date on which employee was hired of department ‘Sales’.

```
mysql> Select Ename, 12 * (YEAR(CURDATE())-YEAR(Hire_date)) + (MONTH(CURDATE())-MONTH(Hire_date))
    -> AS Working_Months from Employee E ,Department D
    -> WHERE E.Dno=D.Dno and Dname='Sales' ;                                    -- Q18
+----------+----------------+
| Ename    | Working_Months |
+----------+----------------+
| JOHN     |            132 |
| MITCHELL |             42 |
| PETER    |             26 |
+----------+----------------+
3 rows in set (0.10 sec)
```

19. Query to display the following for each employee <E-Name> earns < Salary> monthly but wants < 3 * Current Salary >. Label the Column as Dream Salary.

```
mysql> Select CONCAT(Ename , " earns " , Salary , " monthly but wants " , 3*Salary)  AS Dream_Salary
    -> From employee;                                                          -- Q19
+-------------------------------------------------+
| Dream_Salary                                    |
+-------------------------------------------------+
| JOHN earns 9000.00 monthly but wants 27000.00   |
| AVA earns 10000.00 monthly but wants 30000.00   |
| MARY earns 9500.00 monthly but wants 28500.00   |
| MIA earns 9500.00 monthly but wants 28500.00    |
| WILLIAM earns 6000.00 monthly but wants 18000.00|
| MITCHELL earns 8000.00 monthly but wants 24000.00|
| PETER earns 900.00 monthly but wants 2700.00    |
| PAUL earns 900.00 monthly but wants 2700.00     |
+-------------------------------------------------+
8 rows in set (0.00 sec)
```

20. Query to display Name with the 1st letter capitalized and all other letters lower case and length of the name of all the employees whose name starts with ‘J’, ’A’ and ‘M’.

```
mysql> Select CONCAT( UPPER(SUBSTRING(Ename,1,1)) , LOWER(SUBSTRING(Ename,2,50)))
    -> AS Name , LENGTH(Ename) AS Length from Employee
    -> WHERE Ename LIKE "J%" OR Ename LIKE "A%" OR Ename LIKE "M%";             -- Q20
+----------+--------+
| Name     | Length |
+----------+--------+
| John     |      4 |
| Ava      |      3 |
| Mary     |      4 |
| Mia      |      3 |
| Mitchell |      8 |
+----------+--------+
5 rows in set (0.04 sec)
```

21. Query to display Name, Hire Date and Day of the week on which the employee started.

```
mysql> Select Ename, Hire_date, DAYNAME(Hire_date) AS Starting_Day from Employee;   -- Q21
+----------+------------+--------------+
| Ename    | Hire_date  | Starting_Day |
+----------+------------+--------------+
| JOHN     | 2012-03-01 | Thursday     |
| AVA      | 2014-05-07 | Wednesday    |
| MARY     | 2014-11-25 | Tuesday      |
| MIA      | 2016-06-11 | Saturday     |
| WILLIAM  | 2017-08-15 | Tuesday      |
| MITCHELL | 2019-09-21 | Saturday     |
| PETER    | 2021-01-05 | Tuesday      |
| PAUL     | 2021-02-21 | Sunday       |
+----------+------------+--------------+
8 rows in set (0.00 sec)
```

22. Query to display Name, Department Name and Department No for all the employees.

```
mysql> Select E.Ename,D.Dname,E.Dno from Employee E,Department D
    -> WHERE E.Dno = D.Dno ;                                        -- Q22
+----------+----------------+------+
| Ename    | Dname          | Dno  |
+----------+----------------+------+
| JOHN     | SALES          |    1 |
| MITCHELL | SALES          |    1 |
| PETER    | SALES          |    1 |
| AVA      | FINANCE        |    2 |
| WILLIAM  | FINANCE        |    2 |
| MARY     | HUMAN RESOURCE |    3 |
| PAUL     | HUMAN RESOURCE |    3 |
| MIA      | TECHNOLOGY     |    5 |
+----------+----------------+------+
8 rows in set (0.00 sec)
```

23. Query to display Unique Listing of all Jobs that are in Department number 1.

```
mysql> Select DISTINCT Job_type from Employee
    -> WHERE Dno=1;                                                 -- Q23
+---------------------+
| Job_type            |
+---------------------+
| MANAGER             |
| SALES REPRESENTATIVE |
| INTERN              |
+---------------------+
3 rows in set (0.03 sec)
```

24. Query to display Name, Dept Name of all employees who have an ‘A’ in their name.

```
mysql> Select Ename, Dname
    -> from Employee E, Department D
    -> WHERE E.Dno = D.Dno and Ename like '%A%' ;                -- Q24
+---------+----------------+
| Ename   | Dname          |
+---------+----------------+
| AVA     | FINANCE        |
| MARY    | HUMAN RESOURCE |
| MIA     | TECHNOLOGY     |
| WILLIAM | FINANCE        |
| PAUL    | HUMAN RESOURCE |
+---------+----------------+
5 rows in set (0.00 sec)
```

25. Query to display Name, Job, Department No. And Department Name for all the employees working at the New Delhi location.

```
mysql> select ename,job_type,e.dno,dname
    -> from employee as E,department as D
    -> where E.dno=D.dno and location="NEW DELHI" ;                -- Q25
+-------+----------+------+----------------+
| ename | job_type | dno  | dname          |
+-------+----------+------+----------------+
| MARY  | MANAGER  |    3 | HUMAN RESOURCE |
| PAUL  | INTERN   |    3 | HUMAN RESOURCE |
+-------+----------+------+----------------+
2 rows in set (0.00 sec)
```

26. Query to display Name and Employee no. Along with their supervisor's Name and the supervisor's employee no; along with the Employees' Name who do not have a supervisor.

```
mysql> select t1.ename,t1.eno,t1.supervisonEno,t2.eno,t2.ename
    -> as "Supervisor Name"
    -> from employee
    -> as t1 LEFT OUTER JOIN employee as t2 ON t1.supervisonENO=t2.eno;      -- Q26
+----------+-----+---------------+------+-----------------+
| ename    | eno | supervisonEno | eno  | Supervisor Name |
+----------+-----+---------------+------+-----------------+
| JOHN     | 101 | NULL          | NULL | NULL            |
| AVA      | 102 | NULL          | NULL | NULL            |
| MARY     | 103 | NULL          | NULL | NULL            |
| MIA      | 104 | NULL          | NULL | NULL            |
| WILLIAM  | 105 | 102           | 102  | AVA             |
| MITCHELL | 106 | 101           | 101  | JOHN            |
| PETER    | 107 | 106           | 106  | MITCHELL        |
| PAUL     | 108 | 103           | 103  | MARY            |
+----------+-----+---------------+------+-----------------+
8 rows in set (0.10 sec)
```

27. Query to display Name, Dept No. And Salary of any employee whose department No. and salary matches both the department no. And the salary of any employee who earns a commission.

```
mysql> select ename,dno,salary
    -> from employee
    ->  where(dno,salary) in (select dno,salary from employee where commission>0);          -- Q27
+----------+------+----------+
| ename    | dno  | salary   |
+----------+------+----------+
| JOHN     |    1 |  9000.00 |
| AVA      |    2 | 10000.00 |
| MARY     |    3 |  9500.00 |
| MIA      |    5 |  9500.00 |
| WILLIAM  |    2 |  6000.00 |
| MITCHELL |    1 |  8000.00 |
| PETER    |    1 |   900.00 |
| PAUL     |    3 |   900.00 |
+----------+------+----------+
8 rows in set (0.06 sec)
```

28. Query to display Name and Salaries represented by asterisks, where each asterisk (*)signifies $100.

```
mysql> select ename, concat('',salary/100)
    -> as "SALARY(=$100)"
    -> from employee                                                          -- Q28
    -> ;
+----------+---------------+
| ename    | SALARY(=$100) |
+----------+---------------+
| JOHN     | 90.000000     |
| AVA      | 100.000000    |
| MARY     | 95.000000     |
| MIA      | 95.000000     |
| WILLIAM  | 60.000000     |
| MITCHELL | 80.000000     |
| PETER    | 9.000000      |
| PAUL     | 9.000000      |
+----------+---------------+
8 rows in set (0.00 sec)
```

29. Query to display the Highest, Lowest, Sum and Average Salaries of all the employees.

```
mysql> select sum(salary),avg(salary),max(salary),min(salary)
    -> from employee ;                                                        -- Q29
+-------------+-------------+-------------+-------------+
| sum(salary) | avg(salary) | max(salary) | min(salary) |
+-------------+-------------+-------------+-------------+
|    53800.00 | 6725.000000 |    10000.00 |      900.00 |
+-------------+-------------+-------------+-------------+
1 row in set (0.13 sec)
```

30. Query to display the number of employees performing the same Job type functions.

```
mysql>  select job_type, count(eno)
    -> from employee
    ->  group by job_type;                                          -- Q30
+---------------------+------------+
| job_type            | count(eno) |
+---------------------+------------+
| MANAGER             |          4 |
| ACCOUNTANT          |          1 |
| SALES REPRESENTATIVE |          1 |
| INTERN              |          2 |
+---------------------+------------+
4 rows in set (0.00 sec)
```

31. Query to display the total number of supervisors without listing their names.

```
mysql> select count(distinct(supervisonENO))
    -> as "TOTAL SUPERVISIORS"
    -> from employee ;                                              -- Q31
+--------------------+
| TOTAL SUPERVISIORS |
+--------------------+
|                  4 |
+--------------------+
1 row in set (0.11 sec)
```

32. Query to display the Department Name, Location Name, No. of Employees and the average salary for all employees in that department.

```
mysql> Select Dname,Location,Count(*) as No_of_Employees , AVG(Salary)
    -> from Employee E,Department D
    -> where E.Dno=D.Dno
    -> group by E.Dno;                                              -- Q32
+----------------+-----------+-----------------+-------------+
| Dname          | Location  | No_of_Employees | AVG(Salary) |
+----------------+-----------+-----------------+-------------+
| SALES          | DUBAI     |               3 | 5966.666667 |
| FINANCE        | DALAS     |               2 | 8000.000000 |
| HUMAN RESOURCE | New Delhi |               2 | 5200.000000 |
| TECHNOLOGY     | MUMBAI    |               1 | 9500.000000 |
+----------------+-----------+-----------------+-------------+
4 rows in set (0.00 sec)
```

33. Query to display Name and Hire Date for all employees in the same dept. as MARY.

```
mysql> select ename,hire_date from employee as e, department as d where e.dno=d.dno and dname=(select dname from employee,department where employee.dno= department.dno
and ename="Mary") and ename!="Mary";                                    -- Q33
+-------+-----------+
| ename | hire_date |
+-------+-----------+
| PAUL  | 2021-02-21 |
+-------+-----------+
1 row in set (0.00 sec)
```

34. Query to display the Employee No. And Name for all employees who earn more than the average salary.

```
mysql>  select eno,ename from employee
    -> where salary>(select avg(salary) from employee);                    -- Q34
+-----+----------+
| eno | ename    |
+-----+----------+
| 101 | JOHN     |
| 102 | AVA      |
| 103 | MARY     |
| 104 | MIA      |
| 106 | MITCHELL |
+-----+----------+
5 rows in set (0.00 sec)
```

35. Query to display Employee Number and Name for all employees who work in a department with any employee whose name contains a ‘T’.

```
mysql>  select e1.eno,e1.ename
    -> from employee as e1, employee as e2
    -> where e1.dno=e2.dno and e2.ename like"%a%" and e1.eno!= e2.eno;          -- Q35
+-----+---------+
| eno | ename   |
+-----+---------+
| 105 | WILLIAM |
| 108 | PAUL    |
| 102 | AVA     |
| 103 | MARY    |
+-----+---------+
4 rows in set (0.00 sec)
```

36. Query to display the names and salaries of all employees who report to supervisor named ‘Ava’.

```
mysql>   select ename,salary from employee
    ->  where SupervisonENO=(select eno from employee where ename="AVA");            -- Q36
+---------+---------+
| ename   | salary  |
+---------+---------+
| WILLIAM | 6000.00 |
+---------+---------+
1 row in set (0.00 sec)
```

37. Query to display the department no, name and job for all employees in the Sales department.

```
mysql> select e.dno,e.ename,job_type
    -> from employee as e, department as d
    -> where e.dno=d.dno and dname="SALES";                                          -- Q37
+------+----------+----------------------+
| dno  | ename    | job_type             |
+------+----------+----------------------+
|    1 | JOHN     | MANAGER              |
|    1 | MITCHELL | SALES REPRESENTATIVE |
|    1 | PETER    | INTERN               |
+------+----------+----------------------+
3 rows in set (0.00 sec)
```

38. Display names of employees along with their department name who have more than 20 years experience.

```
mysql>  select ename,department.dname
   -> from employee, department
   -> where employee.dno=department.dno and (year(current_date())-year(Hire_date)-1
   -> +floor(12-month(hire_date)-1 +month(current_date())+ floor(30-day(hire_date)+day(current_date()))/30)/12)>4;          -- Q38
+---------+---------------+
| ename   | dname         |
+---------+---------------+
| JOHN    | SALES         |
| AVA     | FINANCE       |
| MARY    | HUMAN RESOURCE |
| MIA     | TECHNOLOGY    |
| WILLIAM | FINANCE       |
+---------+---------------+
5 rows in set (0.10 sec)
```

39. Display total number of departments at each location.

```
mysql> select location,count(distinct(dno))
    -> as "No. OF DEPARTMENTS"
    -> from department group by location;                                    -- Q39
+----------+--------------------+
| location | No. OF DEPARTMENTS |
+----------+--------------------+
| DALAS    |                  1 |
| DUBAI    |                  1 |
| MUMBAI   |                  1 |
| New Delhi |                 1 |
| PARIS    |                  1 |
+----------+--------------------+
5 rows in set (0.13 sec)
```

40. Find the department name in which atleast 2 employees work in.

```
mysql>  select d.dname from employee as e, department as d
    -> where e.dno= d.dno group by dname having count(e.eno)>=2;             -- Q40
+----------------+
| dname          |
+----------------+
| SALES          |
| FINANCE        |
| HUMAN RESOURCE |
+----------------+
3 rows in set (0.00 sec)
```

41. Query to find the employee name who is not supervisor and name of supervisor supervising more than 5 employees.

```
mysql> Select Ename as NAME
    -> From Employee E
    -> where NOT EXISTS
    -> (Select SupervisonENO
    -> from Employee C
    -> where E.Eno=C.SupervisonENO )
    -> UNION
    -> Select Ename
    -> from Employee A
    -> where(
    -> Select Count(*)
    -> from Employee B
    -> where A.Eno=B.SupervisonENO
    -> group by SupervisonENO)>5;                                    -- Q41
+---------+
| NAME    |
+---------+
| MIA     |
| WILLIAM |
| PETER   |
| PAUL    |
+---------+
4 rows in set (0.03 sec)
```

42. Query to display the job_type with maximum and minimum employees

```
mysql> select min(job_type),max(job_type) from employee;                -- Q42
+---------------+---------------------+
| min(job_type) | max(job_type)       |
+---------------+---------------------+
| ACCOUNTANT    | SALES REPRESENTATIVE |
+---------------+---------------------+
1 row in set (0.00 sec)
```