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BSC (HONS) COMPUTER SCIENCE

SECTION: A

SEMESTER: 4th

DBMS PRACTICALS

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

```
MariaDB [emp_dept]> show tables;
+--------------------+
| Tables_in_emp_dept |
+--------------------+
| department         |
| employee           |
+--------------------+
2 rows in set (0.002 sec)
```

```
MariaDB [emp_dept]> 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  |     | NULL    |       |
| Hire_date     | date          | NO   |     | NULL    |       |
| Dno           | int(3)        | YES  | MUL | NULL    |       |
| Commission    | decimal(10,2) | YES  |     | NULL    |       |
| Salary        | decimal(7,2)  | NO   |     | NULL    |       |
+---------------+---------------+------+-----+---------+-------+
8 rows in set (1.303 sec)

MariaDB [emp_dept]> desc department;
+----------+-------------+------+-----+-----------+-------+
| Field    | Type        | Null | Key | Default   | Extra |
+----------+-------------+------+-----+-----------+-------+
| dno      | int(3)      | NO   | PRI | NULL      |       |
| dname    | varchar(50) | YES  |     | NULL      |       |
| location | varchar(50) | YES  |     | New Delhi |       |
+----------+-------------+------+-----+-----------+-------+
3 rows in set (0.065 sec)
```

```
MariaDB [emp_dept]> select* from employee;
+-----+--------+----------+---------------+------------+------+------------+---------+
| eno | ename  | job_type | supervisonENO | Hire_date  | Dno  | Commission | Salary  |
+-----+--------+----------+---------------+------------+------+------------+---------+
| 736 | Smith  | Clerk    | 790           | 1981-12-17 |   20 |       0.00 | 1000.00 |
| 749 | Allan  | Sales_man | 769          | 1981-02-20 |   30 |     300.00 | 2000.00 |
| 752 | Ward   | Sales_man | 769          | 1981-02-22 |   30 |     500.00 | 1300.00 |
| 756 | Jones  | Manager  | 783           | 1981-04-02 |   20 |       0.00 | 2300.00 |
| 765 | Martin | Sales_man | 784          | 1981-04-22 |   30 |    1400.00 | 1250.00 |
| 769 | Blake  | Manager  | 783           | 1981-05-01 |   30 |       0.00 | 2870.00 |
| 778 | Clark  | Manager  | 783           | 1981-06-09 |   10 |       0.00 | 2900.00 |
| 783 | King   | President | NULL         | 1981-11-17 |   10 |       0.00 | 2950.00 |
| 784 | Turner | Sales_man | 769          | 1981-09-08 |   30 |       0.00 | 1450.00 |
| 787 | Adams  | Clerk    | 778           | 1983-01-12 |   20 |       0.00 | 1150.00 |
| 788 | Scott  | Analyst  | 756           | 1982-12-09 |   20 |       0.00 | 2850.00 |
| 790 | James  | Clerk    | 769           | 1981-12-03 |   30 |       0.00 |  950.00 |
| 792 | Ford   | Analyst  | 756           | 1981-12-03 |   20 |       0.00 | 2600.00 |
| 793 | Miller | Clerk    | 788           | 1982-01-23 |   40 |       0.00 | 1300.00 |
+-----+--------+----------+---------------+------------+------+------------+---------+
14 rows in set (0.366 sec)
```

```
MariaDB [emp_dept]> select* from department;
+-----+------------+-----------+
| dno | dname      | location  |
+-----+------------+-----------+
|  10 | Accounting | New York  |
|  20 | Research   | Dallas    |
|  30 | Sales      | Chicago   |
|  40 | Operation  | Boston    |
|  50 | Purchase   | New Delhi |
+-----+------------+-----------+
5 rows in set (0.001 sec)
```

Query List

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

```
MariaDB [emp_dept]> select ename,job_type,hire_date,eno from employee order by eno;
+--------+-----------+------------+-----+
| ename  | job_type  | hire_date  | eno |
+--------+-----------+------------+-----+
| Smith  | Clerk     | 1981-12-17 | 736 |
| Allan  | Sales_man | 1981-02-20 | 749 |
| Ward   | Sales_man | 1981-02-22 | 752 |
| Jones  | Manager   | 1981-04-02 | 756 |
| Martin | Sales_man | 1981-04-22 | 765 |
| Blake  | Manager   | 1981-05-01 | 769 |
| Clark  | Manager   | 1981-06-09 | 778 |
| King   | President | 1981-11-17 | 783 |
| Turner | Sales_man | 1981-09-08 | 784 |
| Adams  | Clerk     | 1983-01-12 | 787 |
| Scott  | Analyst   | 1982-12-09 | 788 |
| James  | Clerk     | 1981-12-03 | 790 |
| Ford   | Analyst   | 1981-12-03 | 792 |
| Miller | Clerk     | 1982-01-23 | 793 |
+--------+-----------+------------+-----+
14 rows in set (0.062 sec)
```

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

```
MariaDB [emp_dept]> select distinct(job_type) from employee;
+-----------+
| job_type  |
+-----------+
| Clerk     |
| Sales_man |
| Manager   |
| President |
| Analyst   |
+-----------+
5 rows in set (0.059 sec)
```

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

```
MariaDB [emp_dept]> select concat(ename,",",job_type) as seperatejob from employee;
+-----------------+
| seperatejob     |
+-----------------+
| Smith,Clerk     |
| Allan,Sales_man |
| Ward,Sales_man  |
| Jones,Manager   |
| Martin,Sales_man |
| Blake,Manager   |
| Clark,Manager   |
| King,President  |
| Turner,Sales_man |
| Adams,Clerk     |
| Scott,Analyst   |
| James,Clerk     |
| Ford,Analyst    |
| Miller,Clerk    |
+-----------------+
14 rows in set (0.161 sec)
```

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

```
MariaDB [emp_dept]> select concat(eno,",",ename,",",job_type,",",supervisoneno,",",hire_date,",",dno,",",commission,",",
salary) as THE_OUTPUT from employee;
+---------------------------------------------------+
| THE_OUTPUT                                        |
+---------------------------------------------------+
| 736,Smith,Clerk,790,1981-12-17,20,0.00,1000.00    |
| 749,Allan,Sales_man,769,1981-02-20,30,300.00,2000.00 |
| 752,Ward,Sales_man,769,1981-02-22,30,500.00,1300.00 |
| 756,Jones,Manager,783,1981-04-02,20,0.00,2300.00  |
| 765,Martin,Sales_man,784,1981-04-22,30,1400.00,1250.00 |
| 769,Blake,Manager,783,1981-05-01,30,0.00,2870.00  |
| 778,Clark,Manager,783,1981-06-09,10,0.00,2900.00  |
| NULL                                              |
| 784,Turner,Sales_man,769,1981-09-08,30,0.00,1450.00 |
| 787,Adams,Clerk,778,1983-01-12,20,0.00,1150.00    |
| 788,Scott,Analyst,756,1982-12-09,20,0.00,2850.00  |
| 790,James,Clerk,769,1981-12-03,30,0.00,950.00     |
| 792,Ford,Analyst,756,1981-12-03,20,0.00,2600.00   |
| 793,Miller,Clerk,788,1982-01-23,40,0.00,1300.00   |
+---------------------------------------------------+
14 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select ename, salary from employee where salary>2850;
+-------+---------+
| ename | salary  |
+-------+---------+
| Blake | 2870.00 |
| Clark | 2900.00 |
| King  | 2950.00 |
+-------+---------+
3 rows in set (0.063 sec)
```

6. Query to display Employee Name and Department Number for the Employee No= 79.

```
MariaDB [emp_dept]> select ename,dno from employee where eno = '79';
Empty set (0.032 sec)
```

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

```
MariaDB [emp_dept]> select ename, salary from employee where salary not between 1500 and 2850;
+--------+---------+
| ename  | salary  |
+--------+---------+
| Smith  | 1000.00 |
| Ward   | 1300.00 |
| Martin | 1250.00 |
| Blake  | 2870.00 |
| Clark  | 2900.00 |
| King   | 2950.00 |
| Turner | 1450.00 |
| Adams  | 1150.00 |
| James  |  950.00 |
| Miller | 1300.00 |
+--------+---------+
10 rows in set (0.028 sec)
```

8. Query to display Employee Name and Department No. of all the employees in Dept 10 and Dept 30 in the alphabetical order by name.

```
MariaDB [emp_dept]> select ename , dno from employee where dno in (10,30) order by ename;
+--------+------+
| ename  | dno  |
+--------+------+
| Allan  |   30 |
| Blake  |   30 |
| Clark  |   10 |
| James  |   30 |
| King   |   10 |
| Martin |   30 |
| Turner |   30 |
| Ward   |   30 |
+--------+------+
8 rows in set (0.101 sec)
```

9. Query to display Name and Hire Date of every Employee who was hired in 1981.

```
MariaDB [emp_dept]> select ename , hire_date from employee where hire_date like '1981%';
+--------+------------+
| ename  | hire_date  |
+--------+------------+
| Smith  | 1981-12-17 |
| Allan  | 1981-02-20 |
| Ward   | 1981-02-22 |
| Jones  | 1981-04-02 |
| Martin | 1981-04-22 |
| Blake  | 1981-05-01 |
| Clark  | 1981-06-09 |
| King   | 1981-11-17 |
| Turner | 1981-09-08 |
| James  | 1981-12-03 |
| Ford   | 1981-12-03 |
+--------+------------+
11 rows in set (0.028 sec)
```

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

```
MariaDB [emp_dept]> select ename , job_type from employee where supervisoneno is null;
+-------+-----------+
| ename | job_type  |
+-------+-----------+
| King  | President |
+-------+-----------+
1 row in set (0.100 sec)
```

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

```
MariaDB [emp_dept]> select ename, salary , commission from employee where commission is not null;
+--------+---------+------------+
| ename  | salary  | commission |
+--------+---------+------------+
| Smith  | 1000.00 |       0.00 |
| Allan  | 2000.00 |     300.00 |
| Ward   | 1300.00 |     500.00 |
| Jones  | 2300.00 |       0.00 |
| Martin | 1250.00 |    1400.00 |
| Blake  | 2870.00 |       0.00 |
| Clark  | 2900.00 |       0.00 |
| King   | 2950.00 |       0.00 |
| Turner | 1450.00 |       0.00 |
| Adams  | 1150.00 |       0.00 |
| Scott  | 2850.00 |       0.00 |
| James  |  950.00 |       0.00 |
| Ford   | 2600.00 |       0.00 |
| Miller | 1300.00 |       0.00 |
+--------+---------+------------+
14 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select * from employee order by salary and commission desc;
+-----+--------+-----------+---------------+------------+------+------------+---------+
| eno | ename  | job_type  | supervisonENO | Hire_date  | Dno  | Commission | Salary  |
+-----+--------+-----------+---------------+------------+------+------------+---------+
| 749 | Allan  | Sales_man | 769           | 1981-02-20 |   30 |     300.00 | 2000.00 |
| 752 | Ward   | Sales_man | 769           | 1981-02-22 |   30 |     500.00 | 1300.00 |
| 765 | Martin | Sales_man | 784           | 1981-04-22 |   30 |    1400.00 | 1250.00 |
| 736 | Smith  | Clerk     | 790           | 1981-12-17 |   20 |       0.00 | 1000.00 |
| 792 | Ford   | Analyst   | 756           | 1981-12-03 |   20 |       0.00 | 2600.00 |
| 790 | James  | Clerk     | 769           | 1981-12-03 |   30 |       0.00 |  950.00 |
| 788 | Scott  | Analyst   | 756           | 1982-12-09 |   20 |       0.00 | 2850.00 |
| 787 | Adams  | Clerk     | 778           | 1983-01-12 |   20 |       0.00 | 1150.00 |
| 784 | Turner | Sales_man | 769           | 1981-09-08 |   30 |       0.00 | 1450.00 |
| 783 | King   | President | NULL          | 1981-11-17 |   10 |       0.00 | 2950.00 |
| 778 | Clark  | Manager   | 783           | 1981-06-09 |   10 |       0.00 | 2900.00 |
| 769 | Blake  | Manager   | 783           | 1981-05-01 |   30 |       0.00 | 2870.00 |
| 756 | Jones  | Manager   | 783           | 1981-04-02 |   20 |       0.00 | 2300.00 |
| 793 | Miller | Clerk     | 788           | 1982-01-23 |   40 |       0.00 | 1300.00 |
+-----+--------+-----------+---------------+------------+------+------------+---------+
14 rows in set (0.132 sec)
```

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

```
MariaDB [emp_dept]> select ename from employee where ename like '__A%';
+-------+
| ename |
+-------+
| Blake |
| Clark |
| Adams |
+-------+
3 rows in set (0.001 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 = 30 or their Manger’s Employee No = 778.

```
MariaDB [emp_dept]> select ename from employee where (ename like "%r%r%" or ename like "%a%a%") and (dno = 30 or supervi
soneno = 778);
+--------+
| ename  |
+--------+
| Allan  |
| Turner |
| Adams  |
+--------+
3 rows in set (0.169 sec)
```

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

```
MariaDB [emp_dept]> select ename , salary , commission from employee where (1.05*salary)<commission;
+--------+---------+------------+
| ename  | salary  | commission |
+--------+---------+------------+
| Martin | 1250.00 |    1400.00 |
+--------+---------+------------+
1 row in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select curdate() as currentdate , dayname(curdate()) as currentday;
+-------------+------------+
| currentdate | currentday |
+-------------+------------+
| 2021-02-20  | Saturday   |
+-------------+------------+
1 row in set (0.230 sec)
```

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

```
MariaDB [emp_dept]> select ename,hire_date,adddate(six_month_after,mod(9-dayofweek(six_month_after),7)) as salary_review
_date from (select ename,hire_date, date((period_add(extract(year_month from hire_date),6)*100)+1) as six_month_after fr
om employee)a;
+--------+-----------+-------------------+
| ename  | hire_date | salary_review_date |
+--------+-----------+-------------------+
| Smith  | 1981-12-17 | 1982-06-07        |
| Allan  | 1981-02-20 | 1981-08-03        |
| Ward   | 1981-02-22 | 1981-08-03        |
| Jones  | 1981-04-02 | 1981-10-05        |
| Martin | 1981-04-22 | 1981-10-05        |
| Blake  | 1981-05-01 | 1981-11-02        |
| Clark  | 1981-06-09 | 1981-12-07        |
| King   | 1981-11-17 | 1982-05-03        |
| Turner | 1981-09-08 | 1982-03-01        |
| Adams  | 1983-01-12 | 1983-07-04        |
| Scott  | 1982-12-09 | 1983-06-06        |
| James  | 1981-12-03 | 1982-06-07        |
| Ford   | 1981-12-03 | 1982-06-07        |
| Miller | 1982-01-23 | 1982-07-05        |
+--------+-----------+-------------------+
14 rows in set (0.001 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’.

```
MariaDB [emp_dept]> select e.ename , timestampdiff(month,hire_date,curdate()) as number_of_months from employee e, depar
tment d where e.dno = d.dno and dname ="sales";
+--------+-----------------+
| ename  | number_of_months |
+--------+-----------------+
| Allan  |             480 |
| Ward   |             479 |
| Martin |             477 |
| Blake  |             477 |
| Turner |             473 |
| James  |             470 |
+--------+-----------------+
6 rows in set (0.001 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.

```
MariaDB [emp_dept]> select concat(ename," earns ",salary," monthly but wants ",(3*salary)) as 'Dream Salary' from employ
ee;
+--------------------------------------------+
| Dream Salary                               |
+--------------------------------------------+
| Smith earns 1000.00 monthly but wants 3000.00  |
| Allan earns 2000.00 monthly but wants 6000.00  |
| Ward earns 1300.00 monthly but wants 3900.00   |
| Jones earns 2300.00 monthly but wants 6900.00  |
| Martin earns 1250.00 monthly but wants 3750.00 |
| Blake earns 2870.00 monthly but wants 8610.00  |
| Clark earns 2900.00 monthly but wants 8700.00  |
| King earns 2950.00 monthly but wants 8850.00   |
| Turner earns 1450.00 monthly but wants 4350.00 |
| Adams earns 1150.00 monthly but wants 3450.00  |
| Scott earns 2850.00 monthly but wants 8550.00  |
| James earns 950.00 monthly but wants 2850.00   |
| Ford earns 2600.00 monthly but wants 7800.00   |
| Miller earns 1300.00 monthly but wants 3900.00 |
+--------------------------------------------+
14 rows in set (0.108 sec)
```

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

```
MariaDB [emp_dept]> select CONCAT(UCASE(LEFT(ename, 1)), lower(SUBSTRING(ename, 2))) as Name , length(ename) from employ
ee where ename like 'j%' or ename like 'a%' or ename like 'm%';
+--------+--------------+
| Name   | length(ename) |
+--------+--------------+
| Allan  |            5 |
| Jones  |            5 |
| Martin |            6 |
| Adams  |            5 |
| James  |            5 |
| Miller |            6 |
+--------+--------------+
6 rows in set (0.034 sec)
```

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

```
MariaDB [emp_dept]> select ename, hire_date , dayname(hire_date) , dayofweek(hire_date) from employee;
+--------+------------+--------------------+---------------------+
| ename  | hire_date  | dayname(hire_date) | dayofweek(hire_date) |
+--------+------------+--------------------+---------------------+
| Smith  | 1981-12-17 | Thursday           |                   5 |
| Allan  | 1981-02-20 | Friday             |                   6 |
| Ward   | 1981-02-22 | Sunday             |                   1 |
| Jones  | 1981-04-02 | Thursday           |                   5 |
| Martin | 1981-04-22 | Wednesday          |                   4 |
| Blake  | 1981-05-01 | Friday             |                   6 |
| Clark  | 1981-06-09 | Tuesday            |                   3 |
| King   | 1981-11-17 | Tuesday            |                   3 |
| Turner | 1981-09-08 | Tuesday            |                   3 |
| Adams  | 1983-01-12 | Wednesday          |                   4 |
| Scott  | 1982-12-09 | Thursday           |                   5 |
| James  | 1981-12-03 | Thursday           |                   5 |
| Ford   | 1981-12-03 | Thursday           |                   5 |
| Miller | 1982-01-23 | Saturday           |                   7 |
+--------+------------+--------------------+---------------------+
14 rows in set (0.037 sec)
```

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

```
MariaDB [emp_dept]> select ename , dname , e.dno from employee e,department d where e.dno=d.dno;
+--------+------------+------+
| ename  | dname      | dno  |
+--------+------------+------+
| Clark  | Accounting |   10 |
| King   | Accounting |   10 |
| Smith  | Research   |   20 |
| Jones  | Research   |   20 |
| Adams  | Research   |   20 |
| Scott  | Research   |   20 |
| Ford   | Research   |   20 |
| Allan  | Sales      |   30 |
| Ward   | Sales      |   30 |
| Martin | Sales      |   30 |
| Blake  | Sales      |   30 |
| Turner | Sales      |   30 |
| James  | Sales      |   30 |
| Miller | Operation  |   40 |
+--------+------------+------+
14 rows in set (0.039 sec)
```

23. Query to display Unique Listing of all Jobs that are in Department number 30.

```
MariaDB [emp_dept]> select distinct(job_type) from employee where dno = 30;
+-----------+
| job_type  |
+-----------+
| Sales_man |
| Manager   |
| Clerk     |
+-----------+
3 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select ename , dname from employee e,department d where e.dno=d.dno and ename like "%a%";
+--------+------------+
| ename  | dname      |
+--------+------------+
| Clark  | Accounting |
| Adams  | Research   |
| Allan  | Sales      |
| Ward   | Sales      |
| Martin | Sales      |
| Blake  | Sales      |
| James  | Sales      |
+--------+------------+
7 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select ename, job_type, e.dno , dname from employee e,department d where e.dno=d.dno and location =
"dallas";
+-------+----------+------+----------+
| ename | job_type | dno  | dname    |
+-------+----------+------+----------+
| Smith | Clerk    |   20 | Research |
| Jones | Manager  |   20 | Research |
| Adams | Clerk    |   20 | Research |
| Scott | Analyst  |   20 | Research |
| Ford  | Analyst  |   20 | Research |
+-------+----------+------+----------+
5 rows in set (0.001 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.

```
MariaDB [emp_dept]> select e1.ename , e1.eno , e1.supervisoneno,e2.ename from employee e1,employee e2 where e1.superviso
neno=e2.eno or (e1.supervisoneno is null and e2.supervisoneno is null);
+--------+-----+---------------+--------+
| ename  | eno | supervisoneno | ename  |
+--------+-----+---------------+--------+
| Scott  | 788 | 756           | Jones  |
| Ford   | 792 | 756           | Jones  |
| Allan  | 749 | 769           | Blake  |
| Ward   | 752 | 769           | Blake  |
| Turner | 784 | 769           | Blake  |
| James  | 790 | 769           | Blake  |
| Adams  | 787 | 778           | Clark  |
| Jones  | 756 | 783           | King   |
| Blake  | 769 | 783           | King   |
| Clark  | 778 | 783           | King   |
| King   | 783 | NULL          | King   |
| Martin | 765 | 784           | Turner |
| Miller | 793 | 788           | Scott  |
| Smith  | 736 | 790           | James  |
+--------+-----+---------------+--------+
14 rows in set (0.105 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.

```
MariaDB [emp_dept]> select e1.ename , e1.dno , e1.salary, e2.ename from employee e1,employee e2 where e1.eno!=e2.eno and
 e1.dno = e2.dno and e1.salary=e2.salary;
Empty set (0.027 sec)
```

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

```
MariaDB [emp_dept]> select ename , repeat('* ',salary/100) as "*=$100" from employee;
+--------+------------------------------------------------------------+
| ename  | *=$100                                                     |
+--------+------------------------------------------------------------+
| Smith  | * * * * * * * * * *                                        |
| Allan  | * * * * * * * * * * * * * * * * * * * *                    |
| Ward   | * * * * * * * * * * * * *                                  |
| Jones  | * * * * * * * * * * * * * * * * * * * * * * * * *          |
| Martin | * * * * * * * * * * * * *                                  |
| Blake  | * * * * * * * * * * * * * * * * * * * * * * * * * * * *    |
| Clark  | * * * * * * * * * * * * * * * * * * * * * * * * * * *      |
| King   | * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  |
| Turner | * * * * * * * * * * * * * * *                              |
| Adams  | * * * * * * * * * * * *                                    |
| Scott  | * * * * * * * * * * * * * * * * * * * * * * * * * * *      |
| James  | * * * * * * * * * * *                                      |
| Ford   | * * * * * * * * * * * * * * * * * * * * * * * * * *        |
| Miller | * * * * * * * * * * * * *                                  |
+--------+------------------------------------------------------------+
14 rows in set (0.054 sec)
```

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

```
MariaDB [emp_dept]> select max(salary) as highest, min(salary) as lowest, sum(salary) as sum, avg(salary) as average fro
m employee;
+---------+--------+---------+------------+
| highest | lowest | sum     | average    |
+---------+--------+---------+------------+
| 2950.00 | 950.00 | 26870.00 | 1919.285714 |
+---------+--------+---------+------------+
1 row in set (0.093 sec)
```

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

```
MariaDB [emp_dept]> select job_type, count(*) as no_of_employees from employee group by job_type;
+-----------+-----------------+
| job_type  | no_of_employees |
+-----------+-----------------+
| Analyst   |               2 |
| Clerk     |               4 |
| Manager   |               3 |
| President |               1 |
| Sales_man |               4 |
+-----------+-----------------+
5 rows in set (0.021 sec)
```

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

```
MariaDB [emp_dept]> select count(*) as no_of_supervisor from employee where eno in (select supervisoneno from employee);

+-----------------+
| no_of_supervisor |
+-----------------+
|               7 |
+-----------------+
1 row in set (0.048 sec)
```

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

```
MariaDB [emp_dept]> select dname , location, count(*) as no_of_employee, AVG(salary) as average_salary from employee e,
department d where e.dno = d.dno group by dname;
+------------+----------+---------------+---------------+
| dname      | location | no_of_employee | average_salary |
+------------+----------+---------------+---------------+
| Accounting | New York |             2 |    2925.000000 |
| Operation  | Boston   |             1 |    1300.000000 |
| Research   | Dallas   |             5 |    1980.000000 |
| Sales      | Chicago  |             6 |    1636.666667 |
+------------+----------+---------------+---------------+
4 rows in set (0.132 sec)
```

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

```
MariaDB [emp_dept]> select ename, hire_date from employee where dno in (select dno from employee where ename="Blake");
+--------+-----------+
| ename  | hire_date |
+--------+-----------+
| Allan  | 1981-02-20 |
| Ward   | 1981-02-22 |
| Martin | 1981-04-22 |
| Blake  | 1981-05-01 |
| Turner | 1981-09-08 |
| James  | 1981-12-03 |
+--------+-----------+
6 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select eno , ename from employee where salary>(select AVG(salary) from employee);
+-----+-------+
| eno | ename |
+-----+-------+
| 749 | Allan |
| 756 | Jones |
| 769 | Blake |
| 778 | Clark |
| 783 | King  |
| 788 | Scott |
| 792 | Ford  |
+-----+-------+
7 rows in set (0.032 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’.

```
MariaDB [emp_dept]> select eno, ename from employee where dno in (select dno from employee where ename like "%t%");
+-----+--------+
| eno | ename  |
+-----+--------+
| 736 | Smith  |
| 749 | Allan  |
| 752 | Ward   |
| 756 | Jones  |
| 765 | Martin |
| 769 | Blake  |
| 784 | Turner |
| 787 | Adams  |
| 788 | Scott  |
| 790 | James  |
| 792 | Ford   |
+-----+--------+
11 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select ename, salary from employee where supervisoneno = (select eno from employee where ename ="kin
g");
+-------+---------+
| ename | salary  |
+-------+---------+
| Jones | 2300.00 |
| Blake | 2870.00 |
| Clark | 2900.00 |
+-------+---------+
3 rows in set (0.001 sec)
```

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

```
MariaDB [emp_dept]> select e.dno, ename , job_type from employee e,department d where e.dno=d.dno and d.dno = (select dn
o from department where dname ="sales");
+------+--------+-----------+
| dno  | ename  | job_type  |
+------+--------+-----------+
|   30 | Allan  | Sales_man |
|   30 | Ward   | Sales_man |
|   30 | Martin | Sales_man |
|   30 | Blake  | Manager   |
|   30 | Turner | Sales_man |
|   30 | James  | Clerk     |
+------+--------+-----------+
6 rows in set (0.058 sec)
```

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

```
MariaDB [emp_dept]> select e.ename , d.dname from employee e,department d where e.dno=d.dno and timestampdiff(year,hire_
date,curdate())>20;
+--------+------------+
| ename  | dname      |
+--------+------------+
| Clark  | Accounting |
| King   | Accounting |
| Smith  | Research   |
| Jones  | Research   |
| Adams  | Research   |
| Scott  | Research   |
| Ford   | Research   |
| Allan  | Sales      |
| Ward   | Sales      |
| Martin | Sales      |
| Blake  | Sales      |
| Turner | Sales      |
| James  | Sales      |
| Miller | Operation  |
+--------+------------+
14 rows in set (0.001 sec)
```

39. Display total number of departments at each location

```
MariaDB [emp_dept]> select location, count(*) from department group by location;
+-----------+----------+
| location  | count(*) |
+-----------+----------+
| Boston    |        1 |
| Chicago   |        1 |
| Dallas    |        1 |
| New Delhi |        1 |
| New York  |        1 |
+-----------+----------+
5 rows in set (0.001 sec)
```

40. Find the department name in which at least 5 employees work in.

```
MariaDB [emp_dept]> select dname from department where dno in (select dno from employee group by dno having count(*)>5);

+-------+
| dname |
+-------+
| Sales |
+-------+
1 row in set (0.107 sec)
```

41. Query to find the employee' name who is not supervisor and name of supervisor supervising more than 3 employees.

```
MariaDB [emp_dept]> select ename from employee where eno in (select supervisoneno from employee where supervisoneno is n
ot null group by supervisoneno having count(*)>3) or eno not in (select supervisoneno from employee where supervisoneno
is not null group by supervisoneno);
+--------+
| ename  |
+--------+
| Smith  |
| Allan  |
| Ward   |
| Martin |
| Blake  |
| Adams  |
| Ford   |
| Miller |
+--------+
8 rows in set (0.002 sec)
```

42. Query to display the job type with maximum and minimum employees

```
MariaDB [emp_dept]> select job_type from employee group by job_type having count(*) = (select max(mycount) from (select
count(*) as mycount from employee group by job_type)a) or count(*)=(select min(mycount) from (select count(*) as mycount
 from employee group by job_type)a);
+-----------+
| job_type  |
+-----------+
| Clerk     |
| President |
| Sales_man |
+-----------+
3 rows in set (0.005 sec)
```