Assignment 2

Create a Database name entri_assignment

Create a Table with name `departments`

```
Department_id (pk)  Department_name  Location_id
```

Create a Table with name `employees`

```
Employee_id  (pk)  ,first_name,last_name ,email,phone_number,hire_date,

job_id, salary, commission_pct, manager_id, department_id (fk
reference
```

```
## Insert into Departments table
 INSERT INTO departments VALUES ( 170 , 'Payroll' , 1700);
```

```
## Insert into Employees table

; INSERT INTO employees VALUES (101, 'Neena' , 'Kochhar' , 'NKOCHHAR'
, '515.123.4568' , '1989-11-21' , 'AD_VP' , 17000 , NULL , 100 , 20);

INSERT INTO employees VALUES (102 , 'Lex' , 'De Haan' , 'LDEHAAN' ,
'515.123.4569' , '1993-09-12' , 'AD_VP' , 17000 , NULL , 100 , 30);

INSERT INTO employees VALUES (104 , 'Bruce' , 'Ernst' , 'BERNST' ,
'590.423.4568' , '1991-05-21',  'IT_PROG' , 6000 , NULL , 103 , 60);
```

```
INSERT INTO employees VALUES (105 , 'David' , 'Austin' , 'DAUSTIN' ,
'590.423.4569' , '1997-06-25',  'IT_PROG' , 4800 , NULL , 103 , 60);

INSERT INTO employees VALUES (106 , 'Valli' , 'Pataballa' , 'VPATABAL'
, '590.423.4560' , '1998-02-05',  'IT_PROG' , 4800 , NULL , 103 , 40);

INSERT INTO employees VALUES (107 , 'Diana' , 'Lorentz' , 'DLORENTZ' ,
'590.423.5567' , '1999-02-09',  'IT_PROG' , 4200 , NULL , 103 , 40);

INSERT INTO employees VALUES (108 , 'Nancy' , 'Greenberg' , 'NGREENBE'
, '515.124.4569' , '1994-08-17',  'FI_MGR' , 12000 , NULL , 101 ,
100);

INSERT INTO employees VALUES (109 , 'Daniel' , 'Faviet' , 'DFAVIET' ,
'515.124.4169' , '1994-08-12',  'FI_ACCOUNT' , 9000 , NULL , 108 ,
170);

INSERT INTO employees VALUES (110 , 'John' , 'Chen' , 'JCHEN' ,
'515.124.4269' , '1997-04-09',  'FI_ACCOUNT' , 8200 , NULL , 108 ,
170);

INSERT INTO employees VALUES (111 , 'Ismael' , 'Sciarra' , 'ISCIARRA'
, '515.124.4369' , '1997-02-01',  'FI_ACCOUNT' , 7700 , NULL , 108 ,
160);

INSERT INTO employees VALUES (112 , 'Jose Manuel' , 'Urman' ,
'JMURMAN' , '515.124.4469' , '1998-06-03', 'FI_ACCOUNT' , 7800 , NULL
8 , 150);

INSERT INTO employees VALUES (114 , 'Den' , 'Raphaely' , 'DRAPHEAL' ,
'515.127.4561' , '1994-11-08',  'PU_MAN' , 11000 , NULL , 100 , 30);
```

```
INSERT INTO employees VALUES (115 , 'Alexander' , 'Khoo' , 'AKHOO' ,
'515.127.4562' , '1995-05-12',  'PU_CLERK' , 3100 , NULL , 114 , 80);

INSERT INTO employees VALUES (116 , 'Shelli' , 'Baida' , 'SBAIDA' ,
'515.127.4563' ,'1997-12-13', 'PU_CLERK' , 2900 , NULL , 114 , 70);

INSERT INTO employees VALUES (117 , 'Sigal' , 'Tobias' , 'STOBIAS' ,
'515.127.4564' , '1997-09-10', 'PU_CLERK' , 2800 , NULL , 114 , 30);

INSERT INTO employees VALUES (118 , 'Guy' , 'Himuro' , 'GHIMURO' ,
'515.127.4565' , '1998-01-02',  'PU_CLERK' , 2600 , NULL , 114 , 60);

INSERT INTO employees VALUES (119 , 'Karen' , 'Colmenares' ,
'KCOLMENA' , '515.127.4566' , '1999-04-08',  'PU_CLERK' , 2500 , NULL
, 114 , 130);

INSERT INTO employees VALUES (120 , 'Matthew' , 'Weiss' , 'MWEISS' ,
'650.123.1234' ,'1996-07-18',  'ST_MAN' , 8000 , NULL , 100 , 50);

INSERT INTO employees VALUES (122 , 'Payam' , 'Kaufling' , 'PKAUFLIN'
, '650.123.3234' ,'1995-05-01',  'ST_MAN' , 7900 , NULL , 100 , 40);

INSERT INTO employees VALUES (123 , 'Shanta' , 'Vollman' , 'SVOLLMAN'
, '650.123.4234' , '1997-10-12',  'ST_MAN' , 6500 , NULL , 100 , 50);

INSERT INTO employees VALUES (124, 'Kevin' , 'Mourgos' , 'KMOURGOS' ,
'650.123.5234' , '1999-11-12',  'ST_MAN' , 5800 , NULL , 100 , 80);

INSERT INTO employees VALUES (125, 'Julia' , 'Nayer' , 'JNAYER' ,
'650.124.1214' , '1997-07-02',  'ST_CLERK' , 3200 , NULL , 120 , 50);
```

```
INSERT INTO employees VALUES (126, 'Irene' , 'Mikkilineni' ,
'IMIKKILI' , '650.124.1224' , '1998-11-12', 'ST_CLERK' , 2700 , NULL ,
120 , 50);

INSERT INTO employees VALUES (127, 'James' , 'Landry' , 'JLANDRY' ,
'650.124.1334' , '1999-01-02' , 'ST_CLERK' , 2400 , NULL , 120 , 90);

INSERT INTO employees VALUES (128, 'Steven' , 'Markle' , 'SMARKLE' ,
'650.124.1434' , '2000-03-04' , 'ST_CLERK' , 2200 , NULL , 120 , 50);

INSERT INTO employees VALUES (130, 'Mozhe' , 'Atkinson' , 'MATKINSO' ,
'650.124.6234' , '1997-10-12' , 'ST_CLERK' , 2800 , NULL , 121 , 110);
```

Solve SQL Exercises

1. Select employees first name, last name, job_id and salary whose first name starts with alphabet S

```
mysql> select Firstname, Lastname, Job_id, Salary from employees where firstname like 's%';
+-----------+----------+----------+--------+
| Firstname | Lastname | Job_id   | Salary |
+-----------+----------+----------+--------+
| Shelli    | Baida    | PU_CLERK |   2900 |
| Sigal     | Tobias   | PU_CLERK |   2800 |
| Shanta    | Vollman  | ST_MAN   |   6500 |
| Steven    | Markle   | ST_CLERK |   2200 |
+-----------+----------+----------+--------+
4 rows in set (0.01 sec)
```

2. Write a query to select employee with the highest salary (using an inner query)

```
mysql> select * from employees where salary = (select max(salary) from employees);
+-------------+----------+----------+---------+--------------+------------+--------+--------+----------------+------------+---------------+
| Employee_id | Firstname | Lastname | email   | Phone_number | Hire_date  | Job_id | Salary | Commission_pct | Manager_id | Department_id |
+-------------+----------+----------+---------+--------------+------------+--------+--------+----------------+------------+---------------+
|         101 | Neena    | Kochhar  | NKOCHHAR | 515.123.4568 | 1989-11-21 | AD_VP  |  17000 |           NULL |        100 |            20 |
|         102 | Lex      | De Haan  | LDEHAAN  | 515.123.4569 | 1993-09-12 | AD_VP  |  17000 |           NULL |        100 |            30 |
+-------------+----------+----------+---------+--------------+------------+--------+--------+----------------+------------+---------------+
2 rows in set (0.01 sec)
```

3. Select employee with the second highest salary

```
mysql> select * from employees where salary = (select max(salary) from employees where salary < (select max(salary) from employees));
+-------------+-----------+-----------+----------+--------------+------------+--------+--------+----------------+------------+---------------+
| Employee_id | Firstname | Lastname  | email    | Phone_number | Hire_date  | Job_id | Salary | Commission_pct | Manager_id | Department_id |
+-------------+-----------+-----------+----------+--------------+------------+--------+--------+----------------+------------+---------------+
|         108 | Nancy     | Greenberg | NGREENBE | 515.124.4569 | 1994-08-17 | FI_MGR |  12000 |           NULL |        101 |           100 |
+-------------+-----------+-----------+----------+--------------+------------+--------+--------+----------------+------------+---------------+
1 row in set (0.02 sec)
```

4. Write a query to select employees and their corresponding managers and their salaries

```
mysql> SELECT e.Employee_id AS Employee_id,e.Firstname AS Employee_name,e.Salary AS Employee_salary,m.employee_id AS manager_id,m.Firstname AS Manager_name,m.Salary AS
Manager_salary FROM employees e LEFT JOIN employees m ON e.manager_id = m.employee_id;
+-------------+---------------+-----------------+------------+--------------+----------------+
| Employee_id | Employee_name | Employee_salary | manager_id | Manager_name | Manager_salary |
+-------------+---------------+-----------------+------------+--------------+----------------+
|         101 | Neena         |           17000 |       NULL | NULL         |           NULL |
|         102 | Lex           |           17000 |       NULL | NULL         |           NULL |
|         104 | Bruce         |            6000 |       NULL | NULL         |           NULL |
|         105 | David         |            4800 |       NULL | NULL         |           NULL |
|         106 | Valli         |            4800 |       NULL | NULL         |           NULL |
|         107 | Diana         |            4200 |       NULL | NULL         |           NULL |
|         108 | Nancy         |           12000 |        101 | Neena        |          17000 |
|         109 | Daniel        |            9000 |        108 | Nancy        |          12000 |
|         110 | John          |            8200 |        108 | Nancy        |          12000 |
|         111 | Ismael        |            7700 |        108 | Nancy        |          12000 |
|         112 | Jose Manuel   |            7800 |       NULL | NULL         |           NULL |
|         114 | Den           |           11000 |       NULL | NULL         |           NULL |
|         115 | Alexander     |            3100 |        114 | Den          |          11000 |
|         116 | Shelli        |            2900 |        114 | Den          |          11000 |
|         117 | Sigal         |            2800 |        114 | Den          |          11000 |
|         118 | Guy           |            2600 |        114 | Den          |          11000 |
|         119 | Karen         |            2500 |        114 | Den          |          11000 |
|         120 | Matthew       |            8000 |       NULL | NULL         |           NULL |
|         122 | Payam         |            7900 |       NULL | NULL         |           NULL |
|         123 | Shanta        |            6500 |       NULL | NULL         |           NULL |
|         124 | Kevin         |            5800 |       NULL | NULL         |           NULL |
|         125 | Julia         |            3200 |        120 | Matthew      |           8000 |
|         126 | Irene         |            2700 |        120 | Matthew      |           8000 |
|         127 | James         |            2400 |        120 | Matthew      |           8000 |
|         128 | Steven        |            2200 |        120 | Matthew      |           8000 |
|         130 | Mozhe         |            2800 |       NULL | NULL         |           NULL |
+-------------+---------------+-----------------+------------+--------------+----------------+
26 rows in set (0.00 sec)
```

5. Write a query to select employees and their corresponding managers and their salaries (SELF Join)

```
mysql> SELECT e.Employee_id AS Employee_id,e.Firstname AS Employee_name,e.Salary AS Employee_salary,m.employee_id AS manager_id,m.Firstname AS Manager_name,m.Salary AS
Manager_salary FROM employees e LEFT JOIN employees m ON e.manager_id = m.employee_id;
+-------------+---------------+-----------------+------------+--------------+----------------+
| Employee_id | Employee_name | Employee_salary | manager_id | Manager_name | Manager_salary |
+-------------+---------------+-----------------+------------+--------------+----------------+
|         101 | Neena         |           17000 |       NULL | NULL         |           NULL |
|         102 | Lex           |           17000 |       NULL | NULL         |           NULL |
|         104 | Bruce         |            6000 |       NULL | NULL         |           NULL |
|         105 | David         |            4800 |       NULL | NULL         |           NULL |
|         106 | Valli         |            4800 |       NULL | NULL         |           NULL |
|         107 | Diana         |            4200 |       NULL | NULL         |           NULL |
|         108 | Nancy         |           12000 |        101 | Neena        |          17000 |
|         109 | Daniel        |            9000 |        108 | Nancy        |          12000 |
|         110 | John          |            8200 |        108 | Nancy        |          12000 |
|         111 | Ismael        |            7700 |        108 | Nancy        |          12000 |
|         112 | Jose Manuel   |            7800 |       NULL | NULL         |           NULL |
|         114 | Den           |           11000 |       NULL | NULL         |           NULL |
|         115 | Alexander     |            3100 |        114 | Den          |          11000 |
|         116 | Shelli        |            2900 |        114 | Den          |          11000 |
|         117 | Sigal         |            2800 |        114 | Den          |          11000 |
|         118 | Guy           |            2600 |        114 | Den          |          11000 |
|         119 | Karen         |            2500 |        114 | Den          |          11000 |
|         120 | Matthew       |            8000 |       NULL | NULL         |           NULL |
|         122 | Payam         |            7900 |       NULL | NULL         |           NULL |
|         123 | Shanta        |            6500 |       NULL | NULL         |           NULL |
|         124 | Kevin         |            5800 |       NULL | NULL         |           NULL |
|         125 | Julia         |            3200 |        120 | Matthew      |           8000 |
|         126 | Irene         |            2700 |        120 | Matthew      |           8000 |
|         127 | James         |            2400 |        120 | Matthew      |           8000 |
|         128 | Steven        |            2200 |        120 | Matthew      |           8000 |
|         130 | Mozhe         |            2800 |       NULL | NULL         |           NULL |
+-------------+---------------+-----------------+------------+--------------+----------------+
26 rows in set (0.00 sec)
```

6. Create a view for the above query

```
mysql> CREATE VIEW employeeWithManager AS SELECT e.Employee_id AS Employee_id,e.Firstname AS Employee_name,e.Salary AS Employee_salary,m.employee_id AS manager_id,m.Fir
stname AS Manager_name,m.Salary AS Manager_salary FROM employees e LEFT JOIN employees m ON e.manager_id = m.employee_id;
Query OK, 0 rows affected (0.03 sec)

mysql> show tables;
+----------------------------+
| Tables_in_entri_assignment |
+----------------------------+
| departments                |
| employees                  |
| employeewithmanager        |
+----------------------------+
3 rows in set (0.00 sec)
```

7. Write a query to show the count of employees under each manager in descending order (from view)

```
mysql> select manager_id, manager_name, count(employee_id) as Employee_count from employeewithmanager where manager_id is not null group by manager_id, manager_name ord
er by Employee_count desc;
+------------+--------------+----------------+
| manager_id | Manager_name | Employee_count |
+------------+--------------+----------------+
|        114 | Den          |              5 |
|        120 | Matthew      |              4 |
|        108 | Nancy        |              3 |
|        101 | Neena        |              1 |
+------------+--------------+----------------+
4 rows in set (0.00 sec)
```

8. Find the count of employees in each department

```
mysql> select department_id, count(*) as employee_count from employees group by department_id ;
+---------------+----------------+
| department_id | employee_count |
+---------------+----------------+
|            20 |              1 |
|            30 |              3 |
|            40 |              3 |
|            50 |              5 |
|            60 |              3 |
|            70 |              1 |
|            80 |              2 |
|            90 |              1 |
|           100 |              1 |
|           110 |              1 |
|           130 |              1 |
|           150 |              1 |
|           160 |              1 |
|           170 |              2 |
+---------------+----------------+
14 rows in set (0.01 sec)
```

9. Get the count of employees hired year wise

```
mysql> select year(Hire_date) as Hire_year, count(*) as Employee_count from employees group by Hire_year order by hire_year;
+-----------+----------------+
| Hire_year | Employee_count |
+-----------+----------------+
|      1989 |              1 |
|      1991 |              1 |
|      1993 |              1 |
|      1994 |              3 |
|      1995 |              2 |
|      1996 |              1 |
|      1997 |              8 |
|      1998 |              4 |
|      1999 |              4 |
|      2000 |              1 |
+-----------+----------------+
10 rows in set (0.00 sec)
```

10 . create a stored procedure to get the " Get the count of employees hired in the input year"(IN year , OUT count)

```
-- Defining the Procedure
DELIMITER $$
CREATE PROCEDURE GetEmployeecountByYear ( IN input_year INT, OUT employee_count INT)
BEGIN
    SELECT COUNT(*) INTO employee_count
    FROM employees
    WHERE year(hire_date) = input_year;
END $$
DELIMITER ;
```

```
-- To Call the Procedure
CALL GetEmployeecountByYear (1997, @employee_count);
SELECT @employee_count;
```

Output:-

Result Grid | Filter Rows:

	@employee_count
▶	8

11.Select the employees whose first_name contains "an"

```
mysql> select * from employees where firstname like '%an%';
+-------------+------------+-----------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
| Employee_id | Firstname  | Lastname  | email    | Phone_number | Hire_date  | Job_id     | Salary | Commission_pct | Manager_id | Department_id |
+-------------+------------+-----------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
|         107 | Diana      | Lorentz   | DLORENTZ | 590.423.5567 | 1999-02-09 | IT_PROG    |   4200 |           NULL |        103 |            40 |
|         108 | Nancy      | Greenberg | NGREENBE | 515.124.4569 | 1994-08-17 | FI_MGR     |  12000 |           NULL |        101 |           100 |
|         109 | Daniel     | Faviet    | DFAVIET  | 515.124.4169 | 1994-08-12 | FI_ACCOUNT |   9000 |           NULL |        108 |           170 |
|         112 | Jose Manuel | Urman    | JMURMAN  | 515.124.4469 | 1998-06-03 | FI_ACCOUNT |   7800 |           NULL |          8 |           150 |
|         115 | Alexander  | Khoo      | AKHOO    | 515.127.4562 | 1995-05-12 | PU_CLERK   |   3100 |           NULL |        114 |            80 |
|         123 | Shanta     | Vollman   | SVOLLMAN | 650.123.4234 | 1997-10-12 | ST_MAN     |   6500 |           NULL |        100 |            50 |
+-------------+------------+-----------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
6 rows in set (0.00 sec)
```

12. Select employee first name and the corresponding phone number in the format (_ _ _)-(_ _ _)-(_ _ _ _)

```
mysql> select firstname, concat('(',substring(phone_number, 1, 3),')-(',substring(phone_number, 5, 3),')-(',substring(phone_number, 9, 4),')') as Phone_number from empl
oyees;
+------------+--------------------+
| firstname  | Phone_number       |
+------------+--------------------+
| Neena      | (515)-(123)-(4568) |
| Lex        | (515)-(123)-(4569) |
| Bruce      | (590)-(423)-(4568) |
| David      | (590)-(423)-(4569) |
| Valli      | (590)-(423)-(4560) |
| Diana      | (590)-(423)-(5567) |
| Nancy      | (515)-(124)-(4569) |
| Daniel     | (515)-(124)-(4169) |
| John       | (515)-(124)-(4269) |
| Ismael     | (515)-(124)-(4369) |
| Jose Manuel | (515)-(124)-(4469) |
| Den        | (515)-(127)-(4561) |
| Alexander  | (515)-(127)-(4562) |
| Shelli     | (515)-(127)-(4563) |
| Sigal      | (515)-(127)-(4564) |
| Guy        | (515)-(127)-(4565) |
| Karen      | (515)-(127)-(4566) |
| Matthew    | (650)-(123)-(1234) |
| Payam      | (650)-(123)-(3234) |
| Shanta     | (650)-(123)-(4234) |
| Kevin      | (650)-(123)-(5234) |
| Julia      | (650)-(124)-(1214) |
| Irene      | (650)-(124)-(1224) |
| James      | (650)-(124)-(1334) |
| Steven     | (650)-(124)-(1434) |
| Mozhe      | (650)-(124)-(6234) |
+------------+--------------------+
26 rows in set (0.00 sec)
```

13. Find the employees who joined in August, 1994.

```
mysql> select firstname, hire_date from employees where year(hire_date) ='1994' and month(hire_date) = '08';
+-----------+------------+
| firstname | hire_date  |
+-----------+------------+
| Nancy     | 1994-08-17 |
| Daniel    | 1994-08-12 |
+-----------+------------+
2 rows in set (0.00 sec)
```

14. Find the maximum salary from each department.

```
mysql> select department_id, max(salary) as Max_salary from employees group by department_id order by department_id;
+---------------+------------+
| department_id | Max_salary |
+---------------+------------+
|            20 |      17000 |
|            30 |      17000 |
|            40 |       7900 |
|            50 |       8000 |
|            60 |       6000 |
|            70 |       2900 |
|            80 |       5800 |
|            90 |       2400 |
|           100 |      12000 |
|           110 |       2800 |
|           130 |       2500 |
|           150 |       7800 |
|           160 |       7700 |
|           170 |       9000 |
+---------------+------------+
14 rows in set (0.00 sec)
```

15.Write a SQL query to display the 5 least earning employees

```
mysql> select firstname, salary from employees order by salary desc limit 5;
+-----------+--------+
| firstname | salary |
+-----------+--------+
| Neena     |  17000 |
| Lex       |  17000 |
| Nancy     |  12000 |
| Den       |  11000 |
| Daniel    |   9000 |
+-----------+--------+
5 rows in set (0.00 sec)
```

16. Find the employees hired in the 80s

```
mysql> select firstname, hire_date from employees where year(hire_date) between '1980' and '1989';
+-----------+------------+
| firstname | hire_date  |
+-----------+------------+
| Neena     | 1989-11-21 |
+-----------+------------+
1 row in set (0.01 sec)
```

17. Find the employees who joined the company after 15th of the month

```
mysql> select firstname, hire_date from employees where day(hire_date) > '15';
+-----------+------------+
| firstname | hire_date  |
+-----------+------------+
| Neena     | 1989-11-21 |
| Bruce     | 1991-05-21 |
| David     | 1997-06-25 |
| Nancy     | 1994-08-17 |
| Matthew   | 1996-07-18 |
+-----------+------------+
5 rows in set (0.01 sec)
```

By Ismailichu