Assignment 1

Create a Database name entri_assignment

Create a Table with name `departments`

`Department_id  (pk) Department_name Location_id+`

```
mysql> DESCRIBE DEPARTMENTS;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| Department_id   | int         | NO   | PRI | NULL    |       |
| Department_name | varchar(100) | NO   |     | NULL    |       |
| Location_id     | int         | NO   |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

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`

```
mysql> DESCRIBE employees;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| Employee_id    | int         | NO   | PRI | NULL    |       |
| first_name     | varchar(25) | NO   |     | NULL    |       |
| last_name      | varchar(25) | NO   |     | NULL    |       |
| email          | varchar(50) | YES  |     | NULL    |       |
| phone_number   | varchar(20) | YES  |     | NULL    |       |
| hire_date      | date        | YES  |     | NULL    |       |
| job_id         | varchar(10) | YES  |     | NULL    |       |
| salary         | int         | YES  |     | NULL    |       |
| commission_pct | float(4,2)  | YES  |     | NULL    |       |
| manager_id     | int         | YES  |     | NULL    |       |
| department_id  | int         | YES  | MUL | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
11 rows in set (0.00 sec)
```

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

```
mysql> SELECT * FROM DEPARTMENTS;
+---------------+-----------------+-------------+
| Department_id | Department_name | Location_id |
+---------------+-----------------+-------------+
|           170 | Payroll         |        1700 |
+---------------+-----------------+-------------+
1 row in set (0.06 sec)
```

```
employees table
```

```
; INSERT INTO employees V
```

```
## 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);
```

```
mysql> SELECT * FROM employees;
+-------------+-------------+-------------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
| Employee_id | first_name  | last_name   | 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 |
|         104 | Bruce       | Ernst       | BERNST   | 590.423.4568 | 1991-05-21 | IT_PROG    |   6000 |           NULL |        103 |            60 |
|         105 | David       | Austin      | DAUSTIN  | 590.423.4569 | 1997-06-25 | IT_PROG    |   4800 |           NULL |        103 |            60 |
|         106 | Valli       | Pataballa   | VPATABAL | 590.423.4560 | 1998-02-05 | IT_PROG    |   4800 |           NULL |        103 |            40 |
|         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 |
|         110 | John        | Chen        | JCHEN    | 515.124.4269 | 1997-04-09 | FI_ACCOUNT |   8200 |           NULL |        108 |           170 |
|         111 | Ismael      | Sciarra     | ISCIARRA | 515.124.4369 | 1997-02-01 | FI_ACCOUNT |   7700 |           NULL |        108 |           160 |
|         112 | Jose Manuel | Urman       | JMURMAN  | 515.124.4469 | 1998-06-03 | FI_ACCOUNT |   7800 |           NULL |        108 |           150 |
|         114 | Den         | Raphaely    | DRAPHEAL | 515.127.4561 | 1994-11-08 | PU_MAN     |  11000 |           NULL |        100 |            30 |
|         115 | Alexander   | Khoo        | AKHOO    | 515.127.4562 | 1995-05-12 | PU_CLERK   |   3100 |           NULL |        114 |            80 |
|         116 | Shelli      | Baida       | SBAIDA   | 515.127.4563 | 1997-12-13 | PU_CLERK   |   2900 |           NULL |        114 |            70 |
|         117 | Sigal       | Tobias      | STOBIAS  | 515.127.4564 | 1997-09-10 | PU_CLERK   |   2800 |           NULL |        114 |            30 |
|         118 | Guy         | Himuro      | GHIMURO  | 515.127.4565 | 1998-01-02 | PU_CLERK   |   2600 |           NULL |        114 |            60 |
|         119 | Karen       | Colmenares  | KCOLMENA | 515.127.4566 | 1999-04-08 | PU_CLERK   |   2500 |           NULL |        114 |           130 |
|         120 | Matthew     | Weiss       | MWEISS   | 650.123.1234 | 1996-07-18 | ST_MAN     |   8000 |           NULL |        100 |            50 |
|         122 | Payam       | Kaufling    | PKAUFLIN | 650.123.3234 | 1995-05-01 | ST_MAN     |   7900 |           NULL |        100 |            40 |
|         123 | Shanta      | Vollman     | SVOLLMAN | 650.123.4234 | 1997-10-12 | ST_MAN     |   6500 |           NULL |        100 |            50 |
|         124 | Kevin       | Mourgos     | KMOURGOS | 650.123.5234 | 1999-11-12 | ST_MAN     |   5800 |           NULL |        100 |            80 |
|         125 | Julia       | Nayer       | JNAYER   | 650.124.1214 | 1997-07-02 | ST_CLERK   |   3200 |           NULL |        120 |            50 |
|         126 | Irene       | Mikkilineni | IMIKKILI | 650.124.1224 | 1998-11-12 | ST_CLERK   |   2700 |           NULL |        120 |            50 |
|         127 | James       | Landry      | JLANDRY  | 650.124.1334 | 1999-01-02 | ST_CLERK   |   2400 |           NULL |        120 |            90 |
|         128 | Steven      | Markle      | SMARKLE  | 650.124.1434 | 2000-03-04 | ST_CLERK   |   2200 |           NULL |        120 |            50 |
|         130 | Mozhe       | Atkinson    | MATKINSO | 650.124.6234 | 1997-10-12 | ST_CLERK   |   2800 |           NULL |        121 |           110 |
+-------------+-------------+-------------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
26 rows in set (0.00 sec)
```

Solve SQL Exercises

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

```
89 •  SELECT first_name, last_name, job_id, salary
90    FROM employees
91    WHERE first_name LIKE 'S%'
92    ORDER BY first_name;
93
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

first_name	last_name	job_id	salary
Shanta	Vollman	ST_MAN	6500.00
Shelli	Baida	PU_CLERK	2900.00
Sigal	Tobias	PU_CLERK	2800.00
Steven	Markle	ST_CLERK	2200.00

```
Database changed
mysql> select first_name,last_name,job_id,salary from employees where first_name like 'S%';
+------------+-----------+----------+--------+
| first_name | last_name | 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 (0.00 sec)
```

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

```
99 •  SELECT *
100   FROM Employees
101   WHERE salary = (SELECT MAX(salary) FROM Employees);
102
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

employee_id	first_name	last_name	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	17000.00	NULL	100	20
102	Lex	De Haan	LDEHAAN	515.123.4569	1993-09-12	AD_VP	17000.00	NULL	100	30
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
mysql> select first_name,salary from employees where salary = (select MAX(salary) from employees);
+------------+--------+
| first_name | salary |
+------------+--------+
| Neena      |  17000 |
| Lex        |  17000 |
+------------+--------+
2 rows in set (0.00 sec)
```

3. Select employee with the second highest salary

```
103 •  SELECT *
104    FROM Employees
105    WHERE salary = (
106        SELECT MAX(salary)
107        FROM Employees
108        WHERE salary < (
109            SELECT MAX(salary)
110            FROM Employees
111        )
112    );
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

employee_id	first_name	last_name	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	12000.00	NULL	101	100
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
mysql> SELECT first_name,salary
    -> from employees
    -> where salary=(SELECT MAX(salary)
    ->                     from employees
    ->                where salary <> (select MAX(salary)
    ->                                 from employees));
+------------+--------+
| first_name | salary |
+------------+--------+
| Nancy      |  12000 |
+------------+--------+
1 row in set (0.00 sec)
```

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

```
mysql>
mysql> SELECT
    -> concat(e.first_name,' ',e.last_name) as Employee,
    -> e.salary as Employee_salary,
    -> concat(m.first_name,' ',m.last_name) Manager,
    -> m.salary as Manager_salary
    -> FROM employees e
    -> LEFT JOIN employees m
    -> ON e.manager_id = m.Employee_id;
+------------------+-----------------+-----------------+----------------+
| Employee         | Employee_salary | Manager         | Manager_salary |
+------------------+-----------------+-----------------+----------------+
| Neena Kochhar    |           17000 | NULL            |           NULL |
| Lex De Haan      |           17000 | NULL            |           NULL |
| Bruce Ernst      |            6000 | NULL            |           NULL |
| David Austin     |            4800 | NULL            |           NULL |
| Valli Pataballa  |            4800 | NULL            |           NULL |
| Diana Lorentz    |            4200 | NULL            |           NULL |
| Nancy Greenberg  |           12000 | Neena Kochhar   |          17000 |
| Daniel Faviet    |            9000 | Nancy Greenberg |          12000 |
| John Chen        |            8200 | Nancy Greenberg |          12000 |
| Ismael Sciarra   |            7700 | Nancy Greenberg |          12000 |
| Jose Manuel Urman |            7800 | Nancy Greenberg |          12000 |
| Den Raphaely     |           11000 | NULL            |           NULL |
| Alexander Khoo   |            3100 | Den Raphaely    |          11000 |
| Shelli Baida     |            2900 | Den Raphaely    |          11000 |
| Sigal Tobias     |            2800 | Den Raphaely    |          11000 |
| Guy Himuro       |            2600 | Den Raphaely    |          11000 |
| Karen Colmenares |            2500 | Den Raphaely    |          11000 |
| Matthew Weiss    |            8000 | NULL            |           NULL |
| Payam Kaufling   |            7900 | NULL            |           NULL |
| Shanta Vollman   |            6500 | NULL            |           NULL |
| Kevin Mourgos    |            5800 | NULL            |           NULL |
| Julia Nayer      |            3200 | Matthew Weiss   |           8000 |
| Irene Mikkilineni |            2700 | Matthew Weiss   |           8000 |
| James Landry     |            2400 | Matthew Weiss   |           8000 |
| Steven Markle    |            2200 | Matthew Weiss   |           8000 |
| Mozhe Atkinson   |            2800 | NULL            |           NULL |
+------------------+-----------------+-----------------+----------------+
26 rows in set (0.05 sec)
```

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

```
mysql>  SELECT
    ->     e.first_Name AS Employee,
    ->     e.salary AS Employee_Salary,
    ->
    ->  m.first_Name AS Manager,
    ->     m.salary AS Manager_Salary
    -> FROM
    ->     employees e
    -> INNER JOIN employees m ON
    ->     e.manager_id = m.employee_id
    -> ORDER BY
    ->     Manager;
+-------------+-----------------+---------+----------------+
| Employee    | Employee_Salary | Manager | Manager_Salary |
+-------------+-----------------+---------+----------------+
| Alexander   |            3100 | Den     |          11000 |
| Shelli      |            2900 | Den     |          11000 |
| Sigal       |            2800 | Den     |          11000 |
| Guy         |            2600 | Den     |          11000 |
| Karen       |            2500 | Den     |          11000 |
| Julia       |            3200 | Matthew |           8000 |
| Irene       |            2700 | Matthew |           8000 |
| James       |            2400 | Matthew |           8000 |
| Steven      |            2200 | Matthew |           8000 |
| Daniel      |            9000 | Nancy   |          12000 |
| John        |            8200 | Nancy   |          12000 |
| Ismael      |            7700 | Nancy   |          12000 |
| Jose Manuel |            7800 | Nancy   |          12000 |
| Nancy       |           12000 | Neena   |          17000 |
+-------------+-----------------+---------+----------------+
14 rows in set (0.00 sec)
```

6. Find the count of employees in each department

```
mysql>
mysql> SELECT department_id, Count(*) Employee_Count
    -> FROM employees
    -> GROUP BY department_id
    -> ORDER 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 (0.00 sec)
```

7. Create a view for the above query

```
mysql> CREATE VIEW EmployeeCountByDepartment AS
    -> SELECT
    ->     d.department_name,
    ->     COUNT(e.employee_id) AS employee_count
    -> FROM
    ->     Departments d
    -> LEFT JOIN
    ->     Employees e ON d.department_id = e.department_id
    -> GROUP BY
    ->     d.department_name;
Query OK, 0 rows affected (0.19 sec)

mysql> SELECT * FROM EmployeeCountByDepartment;
+----------------------+----------------+
| department_name      | employee_count |
+----------------------+----------------+
| Administration       |              0 |
| Marketing            |              1 |
| Purchasing           |              3 |
| Human Resources      |              3 |
| Shipping             |              5 |
| IT                   |              3 |
| Public Relations     |              1 |
| Sales                |              2 |
| Executive            |              1 |
| Finance              |              1 |
| Accounting           |              1 |
| Treasury             |              0 |
| Corporate Tax        |              1 |
| Control And Credit   |              0 |
| Shareholder Services |              1 |
| Benefits             |              1 |
| Manufacturing        |              2 |
| Construction         |              0 |
| Contracting          |              0 |
| Operations           |              0 |
| IT Support           |              0 |
| NOC                  |              0 |
| IT Helpdesk          |              0 |
+----------------------+----------------+
23 rows in set (0.04 sec)
```

```
mysql>  SHOW FULL TABLES;
+----------------------------+------------+
| Tables_in_entri_assignment | Table_type |
+----------------------------+------------+
| departments                | BASE TABLE |
| employee_manager_details   | VIEW       |
| employees                  | BASE TABLE |
+----------------------------+------------+
3 rows in set (0.00 sec)
```

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

```
mysql> SELECT Manager, Count(Employee) Count
    -> FROM EMPLOYEE_MANAGER_DETAILS
    -> GROUP BY Manager
    -> ORDER BY Count DESC;
+-----------------+-------+
| Manager         | Count |
+-----------------+-------+
| Den Raphaely    |     5 |
| Nancy Greenberg |     4 |
| Matthew Weiss   |     4 |
| Neena Kochhar   |     1 |
+-----------------+-------+
4 rows in set (0.00 sec)
```

9. Get the count of employees hired year wise

```
mysql> SELECT
    ->     YEAR(hire_date) AS hire_year,
    ->     COUNT(employee_id) AS employee_count
    -> FROM
    ->     Employees
    -> GROUP BY
    ->     YEAR(hire_date)
    -> 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 (21.91 sec)
```

```
mysql>
mysql> SELECT YEAR(hire_date) Year_of_Hiring, Count(*) Employee_Count
    -> FROM employees
    -> GROUP BY Year_of_Hiring
    -> ORDER BY Year_of_Hiring;
+----------------+----------------+
| Year_of_Hiring | 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.Select the employees whose first_name contains “an”

```
mysql> SELECT *
    -> FROM Employees
    -> WHERE first_name LIKE '%an%';
+-------------+------------+-----------+----------+--------------+------------+------------+---------+----------------+------------+---------------+
| employee_id | first_name | last_name | 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    |  4200.00 |           NULL |        103 |            40 |
|         108 | Nancy      | Greenberg | NGREENBE | 515.124.4569 | 1994-08-17 | FI_MGR     | 12000.00 |           NULL |        101 |           100 |
|         109 | Daniel     | Faviet    | DFAVIET  | 515.124.4169 | 1994-08-12 | FI_ACCOUNT |  9000.00 |           NULL |        108 |           170 |
|         112 | Jose Manuel | Urman    | JMURMAN  | 515.124.4469 | 1998-06-03 | FI_ACCOUNT |  7800.00 |           NULL |          8 |           150 |
|         115 | Alexander  | Khoo      | AKHOO    | 515.127.4562 | 1995-05-12 | PU_CLERK   |  3100.00 |           NULL |        114 |            80 |
|         123 | Shanta     | Vollman   | SVOLLMAN | 650.123.4234 | 1997-10-12 | ST_MAN     |  6500.00 |           NULL |        100 |            50 |
+-------------+------------+-----------+----------+--------------+------------+------------+---------+----------------+------------+---------------+
6 rows in set (0.00 sec)
```

```
mysql> SELECT first_name FROM employees WHERE first_name LIKE '%an%';
+-------------+
| first_name  |
+-------------+
| Diana       |
| Nancy       |
| Daniel      |
| Jose Manuel |
| Alexander   |
| Shanta      |
+-------------+
6 rows in set (0.00 sec)
```

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

```
mysql> DELIMITER //
mysql>
mysql> CREATE PROCEDURE GetEmployeeCountByYear(
    ->     IN input_year YEAR,
    ->     OUT employee_count INT
    -> )
    -> BEGIN
    ->     SELECT COUNT(employee_id) INTO employee_count
    ->     FROM Employees
    ->     WHERE YEAR(hire_date) = input_year;
    -> END //
ERROR 1304 (42000): PROCEDURE GetEmployeeCountByYear already exists
mysql>
mysql> DELIMITER ;
mysql> CALL GetEmployeeCountByYear('2023', @count);
Query OK, 1 row affected (0.21 sec)

mysql> SELECT @count AS employee_count;
+----------------+
| employee_count |
+----------------+
|              0 |
+----------------+
1 row in set (0.00 sec)
```

```
147     DELIMITER $$
148     CREATE PROCEDURE GetCountOfEmployees (
149         IN input_year INT,
150         OUT employee_count INT
151     )
152     BEGIN
153         SELECT COUNT(*)
154         INTO employee_count
155         FROM employees
156         WHERE YEAR(hire_date) = input_year;
157     END$$
158
159     DELIMITER ;
160
161     CALL GetCountOfEmployees('1998',@employee_count);
162     select @employee_count;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Cor

	@employee_count
▶	4

```
mysql>
mysql> DELIMITER $$
mysql> CREATE PROCEDURE EMPLOYEE_COUNT (
    -> IN Input_Year INT,
    -> OUT No_of_Employees INT
    -> )
    -> BEGIN
    -> SELECT Count(*)
    -> INTO No_of_Employees
    -> FROM employees
    -> WHERE Input_Year = Year(HIRE_DATE);
    -> END $$
ERROR 1304 (42000): PROCEDURE EMPLOYEE_COUNT already exists
mysql> DELIMITER ;
mysql> CALL EMPLOYEE_COUNT ('1997', @No_of_Employees);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT @No_of_Employees;
+------------------+
| @No_of_Employees |
+------------------+
|                8 |
+------------------+
1 row in set (0.00 sec)
```

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

```
mysql> SELECT
    ->     first_name AS EmployeeFirstName,
    ->     CONCAT(
    ->         '(', SUBSTRING(phone_number, 1, 3),
    ->         ')-(', SUBSTRING(phone_number, 5, 3),
    ->         ')-(', SUBSTRING(phone_number, 9, 4),
    ->         ')'
    ->     ) AS FormattedPhoneNumber
    -> FROM
    ->     Employees;
+-------------------+----------------------+
| EmployeeFirstName | FormattedPhoneNumber |
+-------------------+----------------------+
| 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 (0.19 sec)
```

```
mysql>  SELECT first_name Name_of_Employee,
    ->  CONCAT('(',SUBSTRING(phone_number,1,3),')-(', SUBSTRING(phone_number,5,3),')-(',SUBSTRING(phone_number,9,4),')')
    ->  AS Phone_NUmber
    ->  from employees;
+-----------------+-------------------+
| Name_of_Employee | 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 (0.06 sec)
```

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

```
mysql> SELECT
    ->     employee_id,
    ->     first_name,
    ->     last_name,
    ->     hire_date
    -> FROM
    ->     Employees
    -> WHERE
    ->     YEAR(hire_date) = 1994
    ->     AND MONTH(hire_date) = 8;
+-------------+------------+-----------+------------+
| employee_id | first_name | last_name | hire_date  |
+-------------+------------+-----------+------------+
|         108 | Nancy      | Greenberg | 1994-08-17 |
|         109 | Daniel     | Faviet    | 1994-08-12 |
+-------------+------------+-----------+------------+
2 rows in set (0.03 sec)
```

```
mysql> SELECT * FROM employees
    -> WHERE YEAR(hire_date)=1994 AND
    -> MONTH(hire_date)=08;
+-------------+------------+-----------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
| Employee_id | first_name | last_name | 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 |
|         109 | Daniel     | Faviet    | DFAVIET  | 515.124.4169 | 1994-08-12 | FI_ACCOUNT |   9000 |           NULL |        108 |           170 |
+-------------+------------+-----------+----------+--------------+------------+------------+--------+----------------+------------+---------------+
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;
+---------------+------------+
| department_id | max_salary |
+---------------+------------+
|            20 |   17000.00 |
|            30 |   17000.00 |
|            40 |    7900.00 |
|            50 |    8000.00 |
|            60 |    6000.00 |
|            70 |    2900.00 |
|            80 |    5800.00 |
|            90 |    2400.00 |
|           100 |   12000.00 |
|           110 |    2800.00 |
|           130 |    2500.00 |
|           150 |    7800.00 |
|           160 |    7700.00 |
|           170 |    9000.00 |
+---------------+------------+
14 rows in set (0.01 sec)
```

```
mysql>
mysql>  SELECT department_id, MAX(salary) AS Maximum_Salary
    ->  FROM employees
    ->  GROUP BY department_id
    ->  ORDER BY department_id;
+---------------+----------------+
| department_id | Maximum_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
    ->     employee_id,
    ->     first_name,
    ->     last_name,
    ->     salary
    -> FROM
    ->     Employees
    -> ORDER BY
    ->     salary
    -> LIMIT 5;
+-------------+------------+-------------+---------+
| employee_id | first_name | last_name   | salary  |
+-------------+------------+-------------+---------+
|         128 | Steven     | Markle      | 2200.00 |
|         127 | James      | Landry      | 2400.00 |
|         119 | Karen      | Colmenares  | 2500.00 |
|         118 | Guy        | Himuro      | 2600.00 |
|         126 | Irene      | Mikkilineni | 2700.00 |
+-------------+------------+-------------+---------+
5 rows in set (0.00 sec)
```

```
mysql>
mysql> SELECT DISTINCT first_name Employee_Name,
    -> salary
    -> FROM EMPLOYEES
    -> ORDER BY salary
    -> LIMIT 5;
+---------------+--------+
| Employee_Name | salary |
+---------------+--------+
| Steven        |   2200 |
| James         |   2400 |
| Karen         |   2500 |
| Guy           |   2600 |
| Irene         |   2700 |
+---------------+--------+
5 rows in set (0.01 sec)
```

```
174 •    select first_name as Employees,
175      salary
176      from employees
177      order by salary asc
178      limit 5;
```

Result Grid | Filter Rows:

Employees	salary
Steven	2200
James	2400
Karen	2500
Guy	2600
Irene	2700

16. Find the employees hired in the 80s

```
mysql> SELECT
    ->     employee_id,
    ->     first_name,
    ->     last_name,
    ->     hire_date
    -> FROM
    ->     Employees
    -> WHERE
    ->     YEAR(hire_date) BETWEEN 1980 AND 1989;
+-------------+------------+-----------+------------+
| employee_id | first_name | last_name | hire_date  |
+-------------+------------+-----------+------------+
|         101 | Neena      | Kochhar   | 1989-11-21 |
+-------------+------------+-----------+------------+
1 row in set (0.00 sec)
```

```
mysql>
mysql> SELECT CONCAT(first_name,' ', last_name) Employee,
    -> hire_date Date_of_hiring
    -> FROM employees
    -> WHERE YEAR(hire_date) BETWEEN '1980' AND '1989';
+---------------+----------------+
| Employee      | Date_of_hiring |
+---------------+----------------+
| Neena Kochhar | 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
    ->     employee_id,
    ->     first_name,
    ->     last_name,
    ->     hire_date
    -> FROM
    ->     Employees
    -> WHERE
    ->     DAY(hire_date) > 15;
+-------------+------------+-----------+------------+
| employee_id | first_name | last_name | hire_date  |
+-------------+------------+-----------+------------+
|         101 | Neena      | Kochhar   | 1989-11-21 |
|         104 | Bruce      | Ernst     | 1991-05-21 |
|         105 | David      | Austin    | 1997-06-25 |
|         108 | Nancy      | Greenberg | 1994-08-17 |
|         120 | Matthew    | Weiss     | 1996-07-18 |
+-------------+------------+-----------+------------+
5 rows in set (0.18 sec)
```

```
mysql> SELECT CONCAT(first_name,' ', last_name) Employee,
    -> hire_date Date_of_hiring
    -> FROM employees
    -> WHERE DAY(hire_date)>15;
+-----------------+----------------+
| Employee        | Date_of_hiring |
+-----------------+----------------+
| Neena Kochhar   | 1989-11-21     |
| Bruce Ernst     | 1991-05-21     |
| David Austin    | 1997-06-25     |
| Nancy Greenberg | 1994-08-17     |
| Matthew Weiss   | 1996-07-18     |
+-----------------+----------------+
5 rows in set (0.00 sec)
```