SQL QUERIES

- Create a Database name entri_assignment
- Create a Table with name `departments` with columns:

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

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

- Create a Table with name `employees` with columns:

```
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(20)  | YES  |     | NULL    |       |
| last_name      | varchar(25)  | YES  |     | NULL    |       |
| email          | varchar(25)  | YES  |     | NULL    |       |
| phone_number   | varchar(20)  | YES  |     | NULL    |       |
| hire_date      | date         | YES  |     | NULL    |       |
| job_id         | varchar(10)  | YES  |     | NULL    |       |
| salary         | decimal(8,2) | YES  |     | NULL    |       |
| commission_pct | decimal(4,2) | YES  |     | NULL    |       |
| manager_id     | int          | YES  |     | NULL    |       |
| Department_id  | int          | YES  | MUL | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
11 rows in set (0.06 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 (0.01 sec)
```

- `Insert values into 'employees' table`

```
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      | 17000.00 |           NULL |        100 |            20 |
|         102 | Lex         | De Haan     | LDEHAAN  | 515.123.4569 | 1993-09-12  | AD_VP      | 17000.00 |           NULL |        100 |            30 |
|         104 | Bruce       | Ernst       | BERNST   | 590.423.4568 | 1991-05-21  | IT_PROG    |  6000.00 |           NULL |        103 |            60 |
|         105 | David       | Austin      | DAUSTIN  | 590.423.4569 | 1997-06-25  | IT_PROG    |  4800.00 |           NULL |        103 |            60 |
|         106 | Valli       | Pataballa   | VPATABAL | 590.423.4560 | 1998-02-05  | IT_PROG    |  4800.00 |           NULL |        103 |            40 |
|         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 |
|         110 | John        | Chen        | JCHEN    | 515.124.4269 | 1997-04-09  | FI_ACCOUNT |  8200.00 |           NULL |        108 |           170 |
|         111 | Ismael      | Sciarra     | ISCIARRA | 515.124.4369 | 1997-02-01  | FI_ACCOUNT |  7700.00 |           NULL |        108 |           160 |
|         112 | Jose Manuel | Urman       | JMURMAN  | 515.124.4469 | 1998-06-03  | FI_ACCOUNT |  7800.00 |           NULL |          8 |           150 |
|         114 | Den         | Raphaely    | DRAPHEAL | 515.127.4561 | 1994-11-08  | PU_MAN     | 11000.00 |           NULL |        100 |            30 |
|         115 | Alexander   | Khoo        | AKHOO    | 515.127.4562 | 1995-05-12  | PU_CLERK   |  3100.00 |           NULL |        114 |            80 |
|         116 | Shelli      | Baida       | SBAIDA   | 515.127.4563 | 1997-12-13  | PU_CLERK   |  2900.00 |           NULL |        114 |            70 |
|         117 | Sigal       | Tobias      | STOBIAS  | 515.127.4564 | 1997-09-10  | PU_CLERK   |  2800.00 |           NULL |        114 |            30 |
|         118 | Guy         | Himuro      | GHIMURO  | 515.127.4565 | 1998-01-02  | PU_CLERK   |  2600.00 |           NULL |        114 |            60 |
|         119 | Karen       | Colmenares  | KCOLMENA | 515.127.4566 | 1999-04-08  | PU_CLERK   |  2500.00 |           NULL |        114 |           130 |
|         120 | Matthew     | Weiss       | MWEISS   | 650.123.1234 | 1996-07-18  | ST_MAN     |  8000.00 |           NULL |        100 |            50 |
|         122 | Payam       | Kaufling    | PKAUFLIN | 650.123.3234 | 1995-05-01  | ST_MAN     |  7900.00 |           NULL |        100 |            40 |
|         123 | Shanta      | Vollman     | SVOLLMAN | 650.123.4234 | 1997-10-12  | ST_MAN     |  6500.00 |           NULL |        100 |            50 |
|         124 | Kevin       | Mourgos     | KMOURGOS | 650.123.5234 | 1999-11-12  | ST_MAN     |  5800.00 |           NULL |        100 |            80 |
|         125 | Julia       | Nayer       | JNAYER   | 650.124.1214 | 1997-07-02  | ST_CLERK   |  3200.00 |           NULL |        120 |            50 |
|         126 | Irene       | Mikkilineni | IMIKKILI | 650.124.1224 | 1998-11-12  | ST_CLERK   |  2700.00 |           NULL |        120 |            50 |
|         127 | James       | Landry      | JLANDRY  | 650.124.1334 | 1999-01-02  | ST_CLERK   |  2400.00 |           NULL |        120 |            90 |
|         128 | Steven      | Markle      | SMARKLE  | 650.124.1434 | 2000-03-04  | ST_CLERK   |  2200.00 |           NULL |        120 |            50 |
|         130 | Mozhe       | Atkinson    | MATKINSO | 650.124.6234 | 1997-10-12  | ST_CLERK   |  2800.00 |           NULL |        121 |           110 |
+-------------+-------------+-------------+----------+--------------+-------------+------------+----------+----------------+------------+---------------+
26 rows in set (0.04 sec)
```

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

```
mysql> SELECT first_name,last_name,job_id,salary FROM employees WHERE first_name LIKE 'S%' ORDER BY first_name;
+------------+-----------+----------+---------+
| 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 |
+------------+-----------+----------+---------+
4 rows in set (0.00 sec)
```

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

```
mysql> SELECT first_name,salary FROM employees WHERE salary=(SELECT MAX(salary) FROM employees);
+------------+----------+
| first_name | salary   |
+------------+----------+
| Neena      | 17000.00 |
| Lex        | 17000.00 |
+------------+----------+
2 rows in set (0.01 sec)
```

3. Select employee with the second highest salary

```
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      | 12000.00 |
+------------+----------+
1 row in set (0.00 sec)
```

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

```
mysql> SELECT
    ->     e.first_name AS employee_name,
    ->     e.salary AS employee_salary,
    ->     m.first_name AS manager_name,
    ->     m.salary AS manager_salary
    -> FROM
    ->     employees e
    -> LEFT JOIN
    ->     employees m ON e.manager_id = m.employee_id;
+---------------+-----------------+--------------+----------------+
| employee_name | employee_salary | manager_name | manager_salary |
+---------------+-----------------+--------------+----------------+
| Neena         |        17000.00 | NULL         |           NULL |
| Lex           |        17000.00 | NULL         |           NULL |
| Bruce         |         6000.00 | NULL         |           NULL |
| David         |         4800.00 | NULL         |           NULL |
| Valli         |         4800.00 | NULL         |           NULL |
| Diana         |         4200.00 | NULL         |           NULL |
| Nancy         |        12000.00 | Neena        |       17000.00 |
| Daniel        |         9000.00 | Nancy        |       12000.00 |
| John          |         8200.00 | Nancy        |       12000.00 |
| Ismael        |         7700.00 | Nancy        |       12000.00 |
| Jose Manuel   |         7800.00 | NULL         |           NULL |
| Den           |        11000.00 | NULL         |           NULL |
| Alexander     |         3100.00 | Den          |       11000.00 |
| Shelli        |         2900.00 | Den          |       11000.00 |
| Sigal         |         2800.00 | Den          |       11000.00 |
| Guy           |         2600.00 | Den          |       11000.00 |
| Karen         |         2500.00 | Den          |       11000.00 |
| Matthew       |         8000.00 | NULL         |           NULL |
| Payam         |         7900.00 | NULL         |           NULL |
| Shanta        |         6500.00 | NULL         |           NULL |
| Kevin         |         5800.00 | NULL         |           NULL |
| Julia         |         3200.00 | Matthew      |        8000.00 |
| Irene         |         2700.00 | Matthew      |        8000.00 |
| James         |         2400.00 | Matthew      |        8000.00 |
| Steven        |         2200.00 | Matthew      |        8000.00 |
| Mozhe         |         2800.00 | 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.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 |         3100.00 | Den     |       11000.00 |
| Shelli    |         2900.00 | Den     |       11000.00 |
| Sigal     |         2800.00 | Den     |       11000.00 |
| Guy       |         2600.00 | Den     |       11000.00 |
| Karen     |         2500.00 | Den     |       11000.00 |
| Julia     |         3200.00 | Matthew |        8000.00 |
| Irene     |         2700.00 | Matthew |        8000.00 |
| James     |         2400.00 | Matthew |        8000.00 |
| Steven    |         2200.00 | Matthew |        8000.00 |
| Daniel    |         9000.00 | Nancy   |       12000.00 |
| John      |         8200.00 | Nancy   |       12000.00 |
| Ismael    |         7700.00 | Nancy   |       12000.00 |
| Nancy     |        12000.00 | Neena   |       17000.00 |
+-----------+-----------------+---------+----------------+
13 rows in set (0.00 sec)
```

6. Create a view for the above query

```
136 •   CREATE VIEW Employee_Manager_Salary AS
137       SELECT
138           e.first_name AS Employee,
139           e.salary AS Employee_Salary,
140           m.first_name AS Manager,
141           m.salary AS Manager_Salary
142       FROM
143           employees e
144       INNER JOIN
145           employees m ON e.manager_id = m.employee_id
146       ORDER BY
147           Manager;
148 •   SHOW FULL TABLES;
149
150
151
```

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

Tables_in_entri_assignment	Table_type
departments	BASE TABLE
employee_manager_salary	VIEW
employees	BASE TABLE

7. 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_Salary GROUP BY Manager ORDER BY count DESC;
+---------+-------+
| Manager | count |
+---------+-------+
| Den     |     5 |
| Matthew |     4 |
| Nancy   |     3 |
| Neena   |     1 |
+---------+-------+
4 rows in set (0.01 sec)
```

8. Find the count of employees in each department

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

9. Get the count of employees hired year wise

```
mysql> SELECT year(hire_date) as hired_year,count(*) as employee_count FROM employees GROUP BY (hire_date) ORDER BY hired_year;
+------------+----------------+
| hired_year | employee_count |
+------------+----------------+
|       1989 |              1 |
|       1991 |              1 |
|       1993 |              1 |
|       1994 |              1 |
|       1994 |              1 |
|       1994 |              1 |
|       1995 |              1 |
|       1995 |              1 |
|       1996 |              1 |
|       1997 |              1 |
|       1997 |              1 |
|       1997 |              1 |
|       1997 |              1 |
|       1997 |              1 |
|       1997 |              2 |
|       1997 |              1 |
|       1998 |              1 |
|       1998 |              1 |
|       1998 |              1 |
|       1998 |              1 |
|       1999 |              1 |
|       1999 |              1 |
|       1999 |              1 |
|       1999 |              1 |
|       2000 |              1 |
+------------+----------------+
25 rows in set (0.01 sec)
```

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

```
mysql> DELIMITER $$
mysql> CREATE PROCEDURE GetCountOfEmployees (IN input_year INT,    OUT employee_count INT )
    -> BEGIN
    -> SELECT COUNT(*)    INTO employee_count
    -> FROM employees
    -> WHERE YEAR(hire_date) = input_year;
    -> END$$
ERROR 1304 (42000): PROCEDURE GetCountOfEmployees already exists
mysql> DELIMITER ;
mysql> CALL GetCountOfEmployees('1998',@employee_count); SELECT @employee_count;
Query OK, 1 row affected (0.00 sec)

+-----------------+
| @employee_count |
+-----------------+
|               4 |
+-----------------+
1 row in set (0.00 sec)
```

11.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)
```

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

```
mysql> SELECT
    ->     first_name,
    ->     CONCAT('(', SUBSTRING(phone_number, 1, 3),')-(', SUBSTRING(phone_number, 5, 3),')-(', SUBSTRING(phone_number, 5, 3),')')
    ->     AS formatted_Number
    -> FROM
    ->     employees;
+-------------+------------------+
| first_name  | formatted_Number |
+-------------+------------------+
| Neena       | (515)-(123)-(123) |
| Lex         | (515)-(123)-(123) |
| Bruce       | (590)-(423)-(423) |
| David       | (590)-(423)-(423) |
| Valli       | (590)-(423)-(423) |
| Diana       | (590)-(423)-(423) |
| Nancy       | (515)-(124)-(124) |
| Daniel      | (515)-(124)-(124) |
| John        | (515)-(124)-(124) |
| Ismael      | (515)-(124)-(124) |
| Jose Manuel | (515)-(124)-(124) |
| Den         | (515)-(127)-(127) |
| Alexander   | (515)-(127)-(127) |
| Shelli      | (515)-(127)-(127) |
| Sigal       | (515)-(127)-(127) |
| Guy         | (515)-(127)-(127) |
| Karen       | (515)-(127)-(127) |
| Matthew     | (650)-(123)-(123) |
| Payam       | (650)-(123)-(123) |
| Shanta      | (650)-(123)-(123) |
| Kevin       | (650)-(123)-(123) |
| Julia       | (650)-(124)-(124) |
| Irene       | (650)-(124)-(124) |
| James       | (650)-(124)-(124) |
| Steven      | (650)-(124)-(124) |
| Mozhe       | (650)-(124)-(124) |
+-------------+------------------+
26 rows in set (0.00 sec)
```

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

```
mysql> SELECT * FROM employees WHERE year(hire_date)=1994 AND month(hire_date)=8;
+-------------+------------+-----------+----------+--------------+------------+------------+---------+----------------+------------+---------------+
| 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 |
|         109 | Daniel     | Faviet    | DFAVIET  | 515.124.4169 | 1994-08-12 | FI_ACCOUNT |  9000.00 |           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
    -> ORDER BY Max_Salary DESC;
+---------------+------------+
| department_id | Max_Salary |
+---------------+------------+
|            20 |   17000.00 |
|            30 |   17000.00 |
|           100 |   12000.00 |
|           170 |    9000.00 |
|            50 |    8000.00 |
|            40 |    7900.00 |
|           150 |    7800.00 |
|           160 |    7700.00 |
|            60 |    6000.00 |
|            80 |    5800.00 |
|            70 |    2900.00 |
|           110 |    2800.00 |
|           130 |    2500.00 |
|            90 |    2400.00 |
+---------------+------------+
14 rows in set (0.00 sec)
```

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

```
mysql> SELECT * FROM employees ORDER BY salary ASC LIMIT 5;
+-------------+------------+-------------+----------+--------------+------------+----------+---------+----------------+------------+---------------+
| Employee_id | first_name | last_name   | email    | phone_number | hire_date  | job_id   | salary  | commission_pct | manager_id | Department_id |
+-------------+------------+-------------+----------+--------------+------------+----------+---------+----------------+------------+---------------+
|         128 | Steven     | Markle      | SMARKLE  | 650.124.1434 | 2000-03-04 | ST_CLERK | 2200.00 |           NULL |        120 |            50 |
|         127 | James      | Landry      | JLANDRY  | 650.124.1334 | 1999-01-02 | ST_CLERK | 2400.00 |           NULL |        120 |            90 |
|         119 | Karen      | Colmenares  | KCOLMENA | 515.127.4566 | 1999-04-08 | PU_CLERK | 2500.00 |           NULL |        114 |           130 |
|         118 | Guy        | Himuro      | GHIMURO  | 515.127.4565 | 1998-01-02 | PU_CLERK | 2600.00 |           NULL |        114 |            60 |
|         126 | Irene      | Mikkilineni | IMIKKILI | 650.124.1224 | 1998-11-12 | ST_CLERK | 2700.00 |           NULL |        120 |            50 |
+-------------+------------+-------------+----------+--------------+------------+----------+---------+----------------+------------+---------------+
5 rows in set (0.00 sec)
```

16. Find the employees hired in the 80s

```
mysql> SELECT * FROM employees WHERE year(hire_date)>=1980 AND year(hire_date)<=1990;
+-------------+------------+-----------+----------+--------------+------------+--------+----------+----------------+------------+---------------+
| 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 |
+-------------+------------+-----------+----------+--------------+------------+--------+----------+----------------+------------+---------------+
1 row in set (0.00 sec)
```

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

```
mysql> SELECT * FROM employees WHERE day(hire_date)>15;
+-------------+------------+-----------+----------+--------------+------------+---------+----------+----------------+------------+---------------+
| 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 |
|         104 | Bruce      | Ernst     | BERNST   | 590.423.4568 | 1991-05-21 | IT_PROG |  6000.00 |           NULL |        103 |            60 |
|         105 | David      | Austin    | DAUSTIN  | 590.423.4569 | 1997-06-25 | IT_PROG |  4800.00 |           NULL |        103 |            60 |
|         108 | Nancy      | Greenberg | NGREENBE | 515.124.4569 | 1994-08-17 | FI_MGR  | 12000.00 |           NULL |        101 |           100 |
|         120 | Matthew    | Weiss     | MWEISS   | 650.123.1234 | 1996-07-18 | ST_MAN  |  8000.00 |           NULL |        100 |            50 |
+-------------+------------+-----------+----------+--------------+------------+---------+----------+----------------+------------+---------------+
5 rows in set (0.00 sec)
```