

Assignment 2

Create a Database name entri_assignment

```
Command Prompt - mysql -u root -p
mysql> show databases;
+-----+
| Database |
+-----+
| entri    |
| entri    |
| information_schema |
| mysql    |
| performance_schema |
| sakila   |
| sys      |
| world    |
+-----+
8 rows in set (0.03 sec)

mysql>
mysql>
mysql> create database entri_assignment;
Query OK, 1 row affected (0.31 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| entri    |
| entri_assignment |
| entri    |
| information_schema |
| mysql    |
| performance_schema |
| sakila   |
| sys      |
| world    |
+-----+
9 rows in set (0.00 sec)
```

Create a Table with name departments

```
mysql> show tables;
+-----+
| Tables_in_entri_assignment |
+-----+
| departments |
| employees   |
+-----+
```

Create a Table with name employees

```
Query OK, 0 rows affected (0.12 sec)

mysql> create table employees(Employee_id int primary key not null,first_name varchar(50) not null,last_name varchar(50) not null,email varchar(50) not null,phone_number varchar(20) not null,hire_date date not null, job_id varchar(50) not null, salary int not null, commission_pct int, manager_id int, department_id int not null, foreign key (department_id) references departments(Department_id) );
Query OK, 0 rows affected (0.62 sec)

mysql> insert into departments values (20, 'Marketing', 150);
```

Insert into Departments table

```
Command Prompt - mysql -u root -p
mysql> INSERT INTO departments VALUES (21, 'Marketing', 180);
Query OK, 1 row affected (0.19 sec)

mysql> UPDATE departments SET department_name = 'Marketing', manager_id = 180 WHERE department_id = 20;
ERROR 1054 (42S22): Unknown column 'manager_id' in 'field list'
mysql> UPDATE departments SET department_name = 'Marketing', Location_id=180 WHERE department_id = 20;
Query OK, 0 rows affected (0.05 sec)
Rows matched: 1 Changed: 0 Warnings: 0

mysql> SELECT * FROM departments WHERE department_id = 20;
+-----+
| Department_id | Department_name | Location_id |
+-----+
| 20 | Marketing | 180 |
+-----+
1 row in set (0.00 sec)

mysql> INSERT INTO departments VALUES (30, 'Purchasing', 1700);
Query OK, 1 row affected (0.10 sec)

mysql> INSERT INTO departments VALUES (40, 'Human Resources', 2400);
Query OK, 1 row affected (0.17 sec)

mysql> INSERT INTO departments VALUES (50, 'Shipping', 1500);
Query OK, 1 row affected (0.10 sec)

mysql> INSERT INTO departments VALUES (60, 'IT', 1400);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO departments VALUES (70, 'Public Relations', 2700);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO departments VALUES (80, 'Sales', 2500);
Query OK, 1 row affected (0.25 sec)

mysql> INSERT INTO departments VALUES (900, 'Executive', 1700);
Query OK, 1 row affected (0.16 sec)

mysql> UPDATE departments SET department_name = 'Marketing', manager_id = 180 WHERE department_id = 20;
ERROR 1054 (42S22): Unknown column 'manager_id' in 'field list'
mysql> UPDATE departments SET department_name = 'Executive', Location_id = 1700 WHERE department_id = 90;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0

mysql> SELECT * FROM departments WHERE department_id = 20;
+-----+
| Department_id | Department_name | Location_id |
+-----+
| 20 | Marketing | 180 |
+-----+
1 row in set (0.00 sec)
```

```
Command Prompt - mysql -u root -p
mysql> SELECT * FROM departments WHERE department_id = 20;
+-----+
| Department_id | Department_name | Location_id |
+-----+
| 20 | Marketing | 180 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM departments WHERE department_id = 90;
Empty set (0.02 sec)

mysql> SELECT * FROM departments WHERE department_id = 900;
+-----+
| Department_id | Department_name | Location_id |
+-----+
| 900 | Executive | 1700 |
+-----+
1 row in set (0.00 sec)

mysql> INSERT INTO departments VALUES (90, 'Executive', 1700);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO departments VALUES (100, 'Finance', 1700);
Query OK, 1 row affected (0.16 sec)

mysql> INSERT INTO departments VALUES (110, 'Accounting', 1700);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO departments VALUES (120, 'Treasury', 1700);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO departments VALUES (130, 'Corporate Tax', 1700);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO departments VALUES (140, 'Control And Credit', 1700);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO departments VALUES (150, 'Shareholder Services', 1700);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO departments VALUES (160, 'Benefits', 1700);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO departments VALUES (170, 'Payroll', 1700);
Query OK, 1 row affected (0.20 sec)

mysql> desc 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)
```

```
Command Prompt - mysql -u root -p

mysql> desc 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)

mysql> select * from departments;
+-----+
| Department_id | Department_name | Location_id |
+-----+
| 20 | Marketing | 180 |
| 21 | Marketing | 180 |
| 30 | Purchasing | 1700 |
| 40 | Human Resources | 2400 |
| 50 | Shipping | 1500 |
| 60 | IT | 1400 |
| 70 | Public Relations | 2700 |
| 80 | Sales | 2500 |
| 90 | Executive | 1700 |
| 100 | Finance | 1700 |
| 110 | Accounting | 1700 |
| 120 | Treasury | 1700 |
| 130 | Corporate Tax | 1700 |
| 140 | Control And Credit | 1700 |
| 150 | Shareholder Services | 1700 |
| 160 | Benefits | 1700 |
| 170 | Payroll | 1700 |
| 900 | Executive | 1700 |
+-----+
18 rows in set (0.00 sec)
```

Insert into Employees table

```
Command Prompt - mysql -u root -p
mysql> show tables;
+-----+
| Tables_in_entry_assignment |
+-----+
| departments                |
| employees                   |
+-----+
2 rows in set (0.00 sec)

mysql> insert into employees values (100, 'Steven', 'King', 'SKING', '515.123.4567', '1987-06-17', 'AD_PRES', 24000, NULL, NULL, 20);
Query OK, 1 row affected (0.09 sec)

mysql> insert into employees values (101, 'Neena', 'Kochhar', 'NKOCHHAR', '515.123.4568', '1989-11-21', 'AD_VP', 17000, NULL, 100, 20);
Query OK, 1 row affected (0.23 sec)

mysql> insert into employees values (102, 'Lex', 'De Haan', 'LDEHAAN', '515.123.4569', '1993-09-12', 'AD_VP', 17000, NULL, 100, 30);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
mysql> insert into employees values (102, 'Lex', 'De Haan', 'LDEHAAN', '515.123.4569', '1993-09-12', 'AD_VP', 17000, NULL, 100, 30);
Query OK, 1 row affected (0.10 sec)

mysql> insert into employees values (103, 'Alexander', 'Hunold', 'AHUNOLD', '590.423.4567', '1990-09-30', 'IT_PROG', 9000, NULL, 102, 60);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO employees VALUES (104, 'Bruce', 'Ernst', 'BERNST', '590.423.4568', '1991-05-21', 'IT_PROG', 6000, NULL, 103, 60);
Query OK, 1 row affected (0.08 sec)

mysql> INSERT INTO employees VALUES (105, 'David', 'Austin', 'DAUSTIN', '590.423.4569', '1997-06-25', 'IT_PROG', 4800, NULL, 103, 60);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO employees VALUES (106, 'Valli', 'Pataballa', 'VPATABAL', '590.423.4560', '1998-02-05', 'IT_PROG', 4800, NULL, 103, 40);
Query OK, 1 row affected (0.11 sec)

mysql> INSERT INTO employees VALUES (107, 'Diana', 'Lorentz', 'DLORENTZ', '590.423.5567', '1999-02-09', 'IT_PROG', 4200, NULL, 103, 40);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO employees VALUES (108, 'Nancy', 'Greenberg', 'NGREENBE', '515.124.4569', '1994-08-17', 'FI_MGR', 12000, NULL, 101, 100);
Query OK, 1 row affected (0.11 sec)

mysql> INSERT INTO employees VALUES (109, 'Daniel', 'Faviet', 'DFAVIET', '515.124.4169', '1994-08-12', 'FI_ACCOUNT', 9000, NULL, 108, 170);
Query OK, 1 row affected (0.18 sec)

mysql> INSERT INTO employees VALUES (110, 'John', 'Chen', 'JCEN', '515.124.4269', '1997-04-09', 'FI_ACCOUNT', 8200, NULL, 108, 170);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO employees VALUES (111, 'Ismael', 'Sciarra', 'ISCIARRA', '515.124.4369', '1997-02-01', 'FI_ACCOUNT', 7700, NULL, 108, 160);
Query OK, 1 row affected (0.10 sec)

mysql> INSERT INTO employees VALUES (112, 'Jose Manuel', 'Uman', 'JUMRMAN', '515.124.4469', '1998-06-03', 'FI_ACCOUNT', 7800, NULL, 108, 150);
Query OK, 1 row affected (0.17 sec)

mysql> INSERT INTO employees VALUES (113, 'Luis', 'Popp', 'LPOPP', '515.124.4567', '1999-12-07', 'FI_ACCOUNT', 6900, NULL, 108, 140);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO employees VALUES (113, 'Luis', 'Popp', 'LPOPP', '515.124.4567', '1999-12-07', 'FI_ACCOUNT', 6900, NULL, 108, 140);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO employees VALUES (112, 'Jose Manuel', 'Uman', 'JUMRMAN', '515.124.4469', '1998-06-03', 'FI_ACCOUNT', 7800, NULL, 108, 150);
ERROR 1062 (23000): Duplicate entry '112' for key 'employees.PRIMARY'
mysql> INSERT INTO employees VALUES (114, 'Den', 'Raphaely', 'DRAPHEAL', '515.127.4561', '1994-11-08', 'PU_MAN', 11000, NULL, 100, 30);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO employees VALUES (115, 'Alexander', 'Khoo', 'AKHOO', '515.127.4562', '1995-05-12', 'PU_CLERK', 3100, NULL, 114, 80);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO employees VALUES (116, 'Shelli', 'Baida', 'SBAIDA', '515.127.4563', '1997-12-13', 'PU_CLERK', 2900, NULL, 114, 70);
Query OK, 1 row affected (0.11 sec)

mysql> INSERT INTO employees VALUES (117, 'Sigal', 'Tobias', 'STOBIAS', '515.127.4564', '1997-09-10', 'PU_CLERK', 2800, NULL, 114, 30);
Query OK, 1 row affected (0.11 sec)

mysql> INSERT INTO employees VALUES (118, 'Guy', 'Himuro', 'GHIMURO', '515.127.4565', '1998-01-02', 'PU_CLERK', 2600, NULL, 114, 60);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO employees VALUES (119, 'Karen', 'Colmenares', 'KCOLMENA', '515.127.4566', '1999-04-08', 'PU_CLERK', 2500, NULL, 114, 130);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO employees VALUES (120, 'Matthew', 'Weiss', 'MWEISS', '650.123.1234', '1996-07-18', 'ST_MAN', 8000, NULL, 100, 50);
Query OK, 1 row affected (0.18 sec)

mysql> INSERT INTO employees VALUES (121, 'Adam', 'Fripp', 'AFRIPP', '650.123.2234', '1997-08-09', 'ST_MAN', 8200, NULL, 100, 50);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO employees VALUES (122, 'Payam', 'Kaufling', 'PKAUFILN', '650.123.3234', '1995-05-01', 'ST_MAN', 7900, NULL, 100, 40);
Query OK, 1 row affected (0.13 sec)

mysql> INSERT INTO employees VALUES (123, 'Shanta', 'Vollman', 'SVOLLMAN', '650.123.4234', '1997-10-12', 'ST_MAN', 6500, NULL, 100, 50);
Query OK, 1 row affected (0.11 sec)

mysql> INSERT INTO employees VALUES (124, 'Kevin', 'Mourgos', 'KMOURGOS', '650.123.5234', '1999-11-12', 'ST_MAN', 5800, NULL, 100, 80);
Query OK, 1 row affected (0.21 sec)

mysql> INSERT INTO employees VALUES (125, 'Julia', 'Nayer', 'JNAYER', '650.124.1214', '1997-07-02', 'ST_CLERK', 3200, NULL, 120, 50);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO employees VALUES (126, 'Irene', 'Mikkilineni', 'IMIKKILI', '650.124.1224', '1998-11-12', 'ST_CLERK', 2700, NULL, 120, 50);
Query OK, 1 row affected (0.10 sec)

mysql> INSERT INTO employees VALUES (127, 'James', 'Landry', 'JLANDRY', '650.124.1334', '1999-01-02', 'ST_CLERK', 2400, NULL, 120, 90);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO employees VALUES (128, 'Steven', 'Markle', 'SMARKLE', '650.124.1434', '2000-03-04', 'ST_CLERK', 2200, NULL, 120, 50);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO employees VALUES (129, 'Laura', 'Bissot', 'LBISSOT', '650.124.5234', '1997-09-10', 'ST_CLERK', 3300, NULL, 121, 50);
Query OK, 1 row affected (0.12 sec)
```

```

Command Prompt - mysql -u root -p

mysql> INSERT INTO employees VALUES (120, 'Laura', 'Bissot', 'LBISSOT', '650.124.5234', '1997-09-10', 'ST_CLERK', 3300, NULL, 121, 50);
Query OK, 1 row affected (0.12 sec)

mysql> INSERT INTO employees VALUES (130, 'Mothe', 'Atkinson', 'MATKINSO', '650.124.6234', '1997-10-12', 'ST_CLERK', 2800, NULL, 121, 110);
Query OK, 1 row affected (0.10 sec)

mysql> select * from employees;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
| 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 | 20 |
| 103 | Alexander | Hunold | AHUNOLD | 590.423.4567 | 1990-09-30 | IT_PROG | 9000 | NULL | 102 | 60 |
| 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 | 590.423.4568 | 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 | DFAVIEI | 515.124.4169 | 1994-08-12 | FI_ACCOUNT | 9000 | NULL | 108 | 170 |
| 110 | John | Chen | JCHEN | 515.124.4269 | 1997-08-09 | FI_ACCOUNT | 8200 | NULL | 108 | 170 |
| 111 | Ismael | Sciarra | TSCARRA | 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 |
| 113 | Luis | Popp | LPOPP | 515.124.4567 | 1999-12-07 | FI_ACCOUNT | 6900 | NULL | 108 | 140 |
| 114 | Den | Raphaely | DRAPHAEL | 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 | SBIDA | 515.127.4563 | 1997-12-13 | PU_CLERK | 2900 | NULL | 114 | 70 |
| 117 | Sigal | Tobias | STOBIA | 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 |
| 121 | Adam | Fripp | AFRIPP | 650.123.2234 | 1997-08-09 | ST_MAN | 8200 | NULL | 100 | 50 |
| 122 | Payam | Kaufling | PKAUFING | 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 | KMORGOS | 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 | Mikellineni | IMIKELLIN | 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 |
| 129 | Laura | Bissot | LBISSOT | 650.124.5234 | 1997-09-10 | ST_CLERK | 3300 | NULL | 121 | 50 |
| 130 | Mothe | Atkinson | MATKINSO | 650.124.6234 | 1997-10-12 | ST_CLERK | 2800 | NULL | 121 | 110 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
31 rows in set (0.06 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p

mysql> select first_name,last_name,job_id,salary
-> from employees
-> where first_name LIKE 'S%';
+-----+-----+-----+-----+
| first_name | last_name | job_id | salary |
+-----+-----+-----+-----+
| Steven | King | AD_PRES | 24000 |
| Shelli | Baida | PU_CLERK | 2900 |
| Sigal | Tobias | PU_CLERK | 2800 |
| Shanta | Vollman | ST_MAN | 6500 |
| Steven | Markle | ST_CLERK | 2200 |
+-----+-----+-----+-----+
5 rows in set (0.06 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p

mysql> SELECT *
-> FROM employees
-> WHERE salary = (SELECT MAX(salary) FROM employees);
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.16 sec)

mysql> select * from employees where salary=(select max(salary) from employees);
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>

```

3. Select employee with the second highest salary

```

Command Prompt - mysql -u root -p

mysql> SELECT * from employees order by salary desc Limit 1;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT * from employees order by salary desc Limit 2;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
| 101 | Neena | Kochhar | NKOCHHAR | 515.122.4568 | 1989-11-21 | AD_VP | 17000 | NULL | 100 | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p

mysql> select employee_id,first_name,last_name,manager_id,salary from employees;
+-----+-----+-----+-----+-----+
| employee_id | first_name | last_name | manager_id | salary |
+-----+-----+-----+-----+-----+
| 100 | Steven | King | NULL | 24000 |
| 101 | Neena | Kochhar | 100 | 17000 |
| 102 | Lex | De Haan | 100 | 17000 |
| 103 | Alexander | Russell | 102 | 9000 |
| 104 | Bruce | Ernst | 103 | 6000 |
| 105 | David | Austin | 103 | 4800 |
| 106 | Valli | Pataballa | 103 | 4800 |
| 107 | Diana | Lorentz | 103 | 4200 |
| 108 | Nancy | Greenberg | 101 | 12000 |
| 109 | Daniel | Faviet | 108 | 9000 |
| 110 | John | Chen | 108 | 8200 |
| 111 | Ismael | Sciarra | 108 | 7700 |
| 112 | Jose Manuel | Urman | 108 | 7800 |
| 113 | Luis | Popp | 108 | 6900 |
| 114 | Den | Raphaely | 100 | 11000 |
| 115 | Alexander | Khoo | 114 | 3100 |
| 116 | Shelli | Bai | 114 | 2900 |
| 117 | Sigal | Tobias | 114 | 2800 |
| 118 | Guy | Himuro | 114 | 2600 |
| 119 | Karen | Colmenares | 114 | 2500 |
| 120 | Matthew | Weiss | 100 | 8000 |
| 121 | Adam | Fripp | 100 | 8200 |
| 122 | Payam | Kaufling | 100 | 7900 |
| 123 | Shanta | Vollman | 100 | 6500 |
| 124 | Kevin | Mourgos | 100 | 5800 |
| 125 | Julia | Mayer | 120 | 3200 |
| 126 | Irene | Niskilinen | 120 | 2700 |
| 127 | James | Landry | 120 | 2400 |
| 128 | Steven | Markle | 120 | 2200 |
| 129 | Laura | Bissot | 121 | 3300 |
| 130 | Mozhe | Atkinson | 121 | 2800 |
+-----+-----+-----+-----+-----+
31 rows in set (0.00 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p
mysql>
mysql> select
-> e.employee_id AS Employee_ID,
-> e.first_name AS Employee_Fname,
-> e.last_name AS Employee_Lname,
-> e.salary AS Employee_Salary,
-> m.employee_id AS Manager_ID,
-> m.first_name AS Manager_Fname,
-> m.last_name AS Manager_Lname,
-> m.salary AS Manager_Salary
-> FROM
-> employees e
-> LEFT JOIN
-> employees m on e.manager_id = m.employee_id;

```

Employee_ID	Employee_Fname	Employee_Lname	Employee_Salary	Manager_ID	Manager_Fname	Manager_Lname	Manager_Salary
100	Steven	King	24000	NULL	NULL	NULL	NULL
101	Neena	Kochhar	17000	100	Steven	King	24000
102	Lex	De Haan	17000	100	Steven	King	24000
103	Alexander	Hunold	9000	102	Lex	De Haan	17000
104	Bruce	Ernst	6000	103	Alexander	Hunold	9000
105	David	Austin	4800	103	Alexander	Hunold	9000
106	Valli	Pataballa	4800	103	Alexander	Hunold	9000
107	Diana	Lorentz	4200	103	Alexander	Hunold	9000
108	Nancy	Greenberg	12000	101	Neena	Kochhar	17000
109	Daniel	Faviet	9000	108	Nancy	Greenberg	12000
110	John	Chen	8200	108	Nancy	Greenberg	12000
111	Ismael	Sciarra	7700	108	Nancy	Greenberg	12000
112	Jose Manuel	Uman	7800	108	Nancy	Greenberg	12000
113	Luis	Popp	6900	108	Nancy	Greenberg	12000
114	Den	Raphaely	11000	100	Steven	King	24000
115	Alexander	Khoo	3100	114	Den	Raphaely	11000
116	Shelli	Baida	2900	114	Den	Raphaely	11000
117	Sigal	Tobias	2800	114	Den	Raphaely	11000
118	Guy	Himuro	2600	114	Den	Raphaely	11000
119	Karen	Colmenares	2500	114	Den	Raphaely	11000
120	Matthew	Weiss	8000	100	Steven	King	24000
121	Adam	Fripp	8200	100	Steven	King	24000
122	Payam	Kaufling	7900	100	Steven	King	24000
123	Shanta	Vollman	6500	100	Steven	King	24000
124	Kevin	Mourgos	5800	100	Steven	King	24000
125	Julia	Nayer	3200	120	Matthew	Weiss	8000
126	Irene	Mikkilineni	2700	120	Matthew	Weiss	8000
127	James	Landry	2400	120	Matthew	Weiss	8000
128	Steven	Markle	2200	120	Matthew	Weiss	8000
129	Laura	Bissot	3300	121	Adam	Fripp	8200
130	Mozhe	Atkinson	2800	121	Adam	Fripp	8200

31 rows in set (0.04 sec)

6. Create a view for the above query

```

Command Prompt - mysql -u root -p
mysql> CREATE VIEW employee_manager_view AS
-> SELECT
-> e.employee_id AS Employee_ID,
-> e.first_name AS Employee_Fname,
-> e.last_name AS Employee_Lname,
-> e.salary AS Employee_Salary,
-> m.employee_id AS Manager_ID,
-> m.first_name AS Manager_Fname,
-> m.last_name AS Manager_Lname,
-> m.salary AS Manager_Salary
-> FROM
-> employees e
-> LEFT JOIN
-> employees m ON e.manager_id = m.employee_id;
Query OK, 0 rows affected (5.46 sec)

mysql> SELECT * FROM employee_manager_view;

```

Employee_ID	Employee_Fname	Employee_Lname	Employee_Salary	Manager_ID	Manager_Fname	Manager_Lname	Manager_Salary
100	Steven	King	24000	NULL	NULL	NULL	NULL
101	Neena	Kochhar	17000	100	Steven	King	24000
102	Lex	De Haan	17000	100	Steven	King	24000
103	Alexander	Hunold	9000	102	Lex	De Haan	17000
104	Bruce	Ernst	6000	103	Alexander	Hunold	9000
105	David	Austin	4800	103	Alexander	Hunold	9000
106	Valli	Pataballa	4800	103	Alexander	Hunold	9000
107	Diana	Lorentz	4200	103	Alexander	Hunold	9000
108	Nancy	Greenberg	12000	101	Neena	Kochhar	17000
109	Daniel	Faviet	9000	108	Nancy	Greenberg	12000
110	John	Chen	8200	108	Nancy	Greenberg	12000
111	Ismael	Sciarra	7700	108	Nancy	Greenberg	12000
112	Jose Manuel	Uman	7800	108	Nancy	Greenberg	12000
113	Luis	Popp	6900	108	Nancy	Greenberg	12000
114	Den	Raphaely	11000	100	Steven	King	24000
115	Alexander	Khoo	3100	114	Den	Raphaely	11000
116	Shelli	Baida	2900	114	Den	Raphaely	11000
117	Sigal	Tobias	2800	114	Den	Raphaely	11000
118	Guy	Himuro	2600	114	Den	Raphaely	11000
119	Karen	Colmenares	2500	114	Den	Raphaely	11000
120	Matthew	Weiss	8000	100	Steven	King	24000
121	Adam	Fripp	8200	100	Steven	King	24000
122	Payam	Kaufling	7900	100	Steven	King	24000
123	Shanta	Vollman	6500	100	Steven	King	24000
124	Kevin	Mourgos	5800	100	Steven	King	24000
125	Julia	Nayer	3200	120	Matthew	Weiss	8000
126	Irene	Mikkilineni	2700	120	Matthew	Weiss	8000
127	James	Landry	2400	120	Matthew	Weiss	8000
128	Steven	Markle	2200	120	Matthew	Weiss	8000
129	Laura	Bissot	3300	121	Adam	Fripp	8200
130	Mozhe	Atkinson	2800	121	Adam	Fripp	8200

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

```
Command Prompt - mysql -u root -p

mysql> SELECT
->   Manager_ID,
->   Manager_Fname,
->   Manager_Lname,
->   COUNT(Employee_ID) AS Employee_Count
-> FROM
->   employee_manager_view
-> GROUP BY
->   Manager_ID, Manager_Fname, Manager_Lname
-> ORDER BY
->   Employee_Count DESC;

+-----+-----+-----+-----+
| Manager_ID | Manager_Fname | Manager_Lname | Employee_Count |
+-----+-----+-----+-----+
| 100 | Steven | King | 8 |
| 108 | Nancy | Greenberg | 5 |
| 114 | Den | Raphaely | 5 |
| 103 | Alexander | Humold | 4 |
| 120 | Matthew | Weiss | 4 |
| 121 | Adam | Fripp | 2 |
| NULL | NULL | NULL | 1 |
| 182 | Lex | De Haan | 1 |
| 101 | Neena | Kochhar | 1 |
+-----+-----+-----+-----+

9 rows in set (0.27 sec)

mysql>
```

```
Command Prompt - mysql -u root -p

mysql> SELECT
->   department_id,
->   COUNT(employee_id) AS Employee_Count
-> FROM
->   employees
-> GROUP BY
->   department_id;

+-----+-----+
| department_id | Employee_Count |
+-----+-----+
| 20 | 2 |
| 30 | 3 |
| 40 | 3 |
| 50 | 7 |
| 60 | 4 |
| 70 | 1 |
| 80 | 2 |
| 90 | 1 |
| 100 | 1 |
| 110 | 1 |
| 130 | 1 |
| 140 | 1 |
| 150 | 1 |
| 160 | 1 |
| 170 | 2 |
+-----+-----+

15 rows in set (0.05 sec)

mysql>
```

9. Get the count of employees hired year wise

```
Command Prompt - mysql -u root -p

mysql> SELECT
->   YEAR(hire_date) AS Hire_Year,
->   COUNT(employee_id) AS Employee_Count
-> FROM
->   employees
-> GROUP BY
->   Hire_Year
-> ORDER BY
->   Hire_Year;

+-----+-----+
| Hire_Year | Employee_Count |
+-----+-----+
| 1987 | 1 |
| 1989 | 1 |
| 1990 | 1 |
| 1991 | 1 |
| 1993 | 1 |
| 1994 | 3 |
| 1995 | 2 |
| 1996 | 1 |
| 1997 | 10 |
| 1998 | 4 |
| 1999 | 5 |
| 2000 | 1 |
+-----+-----+

12 rows in set (0.03 sec)

mysql>
```

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

```

Command Prompt - mysql -u root -p
mysql>
mysql> DELIMITER //
mysql> DELIMITER //
mysql>
mysql> CREATE PROCEDURE GetEmployeeCountByYear(IN inputYear INT, OUT employeeCount INT)
-- BEGIN
-- -- Declare variable to store the count
-- -- DECLARE countResult INT;
-- -- -- Select count of employees hired in the input year
-- -- SELECT COUNT(*) INTO countResult
-- -- FROM employees
-- -- WHERE YEAR(hire_date) = inputYear;
-- -- -- Set the OUT parameter value
-- -- SET employeeCount = countResult;
-- END //
Query OK, 0 rows affected (5.11 sec)

mysql>
mysql> DELIMITER ;
mysql> CALL GetEmployeeCountByYear(2022, @count);
Query OK, 1 row affected (0.67 sec)

mysql> SELECT @count AS EmployeeCount;

```

11. Select the employees whose first_name contains “an”

```

Command Prompt - mysql -u root -p
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
103	Alexander	Hunold	AHUNOLD	590.423.4567	1990-09-30	IT_PROG	9000	NULL	102	60
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	108	150
115	Alexander	Rhoo	ARHOO	515.122.4562	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

```

7 rows in set (0.13 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p
mysql>
mysql>
mysql> select first_name, concat
-- ('(',substring(phone_number,1,3),')-('',substring(phone_number,5,3),')-('',substring(phone_number,9,4),')')
-- AS formatted_phone_number
-- from employees;

```

first_name	formatted_phone_number
Steven	(515)-(123)-(4567)
Neena	(515)-(123)-(4568)
Lex	(515)-(123)-(4569)
Alexander	(590)-(423)-(4567)
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)
Luis	(515)-(124)-(4567)
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)
Adam	(650)-(123)-(2234)
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)
Laura	(650)-(124)-(5234)
Pozhe	(650)-(124)-(6234)

```

11 rows in set (2.14 sec)

mysql>

```

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

```

Command Prompt - mysql -u root -p
31 rows in set (2.14 sec)

mysql> select concat(first_name, ' ', last_name) AS Employee_Name, Year(Hire_Date) hire_date from employees where year(Hire_Date)=1994 and month(Hire_Date)=08;

```

Employee_Name	hire_date
Nancy Greenberg	1994
Daniel Faviet	1994

```

2 rows in set (0.38 sec)

mysql>

```

14. Find the maximum salary from each department.


```

C:\Program Files\MySQL\MySQL Server 8.0> Command Prompt - mysql> use root -p
mysql> -> group by Department_name;
ERROR 1054 (42S22): Unknown column 'Department_name' in 'field list'
mysql>
mysql> select Department_name, MAX(salary) MAX_Salary
mysql> -> from departments d
mysql> -> inner join employees e on d.Department_id=e.Department_id
mysql> -> group by Department_name;
+-----+
| Department_name | MAX_Salary |
+-----+
| Marketing       | 24000      |
| Purchasing      | 17000      |
| IT              | 9000       |
| Human Resources | 7000       |
| Finance         | 12000      |
| Payroll         | 9000       |
| Benefits        | 7700       |
| Shareholder Services | 7800      |
| Control And Credit | 6900      |
| Sales           | 5800       |
| Public Relations | 2900       |
| Corporate Tax    | 2500       |
| Shipping         | 8200       |
| Executive        | 2400       |
| Accounting       | 2800       |
+-----+
15 rows in set (0.46 sec)

mysql>

```

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

```
mysql> select * from employees order by salary 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	NULl	120	50
127	James	Londry	JLONDRY	650.124.1334	1999-01-02	ST_CLERK	2400	NULl	120	90
119	Karen	Coleman	KCOLMAN	515.127.4566	1999-04-08	PJ_CLERK	2500	NULl	114	130
118	Guy	Himuro	GHIIMURO	515.127.4565	1998-01-02	PJ_CLERK	2600	NULl	114	60
126	Irene	Mikkilineni	IMIKKILI	650.124.1224	1998-11-12	ST_CLERK	2700	NULl	120	50

```
5 rows in set (0.17 sec)

mysql>
```

16. Find the employees hired in the 80s

```

C:\Command Prompt - mysql> su root -p
5 rows in set (0.17 sec)

mysql>
mysql> select * from employees where year(hire_date) between 1980 and 1989;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000 | NULL | NULL | 20 |
| 101 | Neena | Kochhar | NKOCHHAR | 515.123.4568 | 1989-11-21 | AD_VP | 17000 | NULL | 100 | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.04 sec)

mysql> select concat(first_name, ' ', last_name) AS employee_name, year(hire_date) hire_year from employees where year(hire_date) between 1980 and 1989;
+-----+-----+
| employee_name | hire_year |
+-----+-----+
| Steven King | 1987 |
| Neena Kochhar | 1989 |
+-----+-----+
2 rows in set (0.22 sec)

mysql>

```

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
108	Cleven	King	SCKING	515.123.4567	1997-06-17	AD_PRES	24000	NUL	NUL	20
101	Henna	Kochhar	WKOCHHAR	515.123.4568	1989-11-21	AD_VP	17000	NUL	100	20
101	Alexander	Hunold	AJAHNOLD	590.423.4567	1990-09-30	IT_PROG	9000	NUL	102	60
104	Bruce	Ernst	BERNST	590.423.4568	1991-05-21	IT_PROG	6000	NUL	103	60
105	David	Austin	DAUSTIN	590.423.4569	1997-06-25	IT_PROG	4800	NUL	103	60
108	Nancy	Greenberg	NGREENBE	515.124.4569	1994-08-17	FI_MGR	12000	NUL	101	100
120	Matthew	Weiss	MWEISS	650.123.1234	1996-07-18	ST_MAN	8000	NUL	100	50

```
mysql>
```