Assignment 1

Create a Database name entri_assignment

Create a Table with name `departments`
```
Department_id   (pk) Department_name Location_id
```

Create a Table with name `employees`
```
Employee_id  (pk)  ,first_name,last_name ,email,phone_number,hire_date,

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

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

```
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);
```

```sql
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);
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solve SQL Exercises

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

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

```
131 •   SELECT *
132     FROM employees
133     WHERE salary = (
134         SELECT MAX(salary)
135         FROM employees
136     );
```

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

3. Select employee with the second highest salary

```
177 •   SELECT *
178     FROM employees
179     WHERE salary = (
180         SELECT MAX(salary)
181         FROM employees
182         WHERE salary < (
183             SELECT MAX(salary)
184             FROM employees
185         )
186     );
```

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

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

```
mysql> SELECT
    ->     e.employee_id AS employee_id,
    ->     e.first_name AS employee_first_name,
    ->     e.last_name AS employee_last_name,
    ->     e.salary AS employee_salary,
    ->     m.employee_id AS manager_id,
    ->     m.first_name AS manager_first_name,
    ->     m.last_name AS manager_last_name,
    ->     m.salary AS manager_salary
    -> FROM
    ->     employees e
    -> LEFT JOIN
    ->     employees m ON e.manager_id = m.employee_id;
```

```
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
| employee_id | employee_first_name | employee_last_name | employee_salary | manager_id | manager_first_name | manager_last_name | manager_salary |
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
|         101 | Neena              | Kochhar           |        17000.00 |       NULL | NULL               | NULL              |          NULL |
|         102 | Lex                | De Haan           |        17000.00 |       NULL | NULL               | NULL              |          NULL |
|         104 | Bruce              | Ernst             |         6000.00 |       NULL | NULL               | NULL              |          NULL |
|         105 | David              | Austin            |         4800.00 |       NULL | NULL               | NULL              |          NULL |
|         106 | Valli              | Pataballa         |         4800.00 |       NULL | NULL               | NULL              |          NULL |
|         107 | Diana              | Lorentz           |         4200.00 |       NULL | NULL               | NULL              |          NULL |
|         108 | Nancy              | Greenberg         |        12000.00 |        101 | Neena              | Kochhar           |      17000.00 |
|         109 | Daniel             | Faviet            |         9000.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         110 | John               | Chen              |         8200.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         111 | Ismael             | Sciarra           |         7700.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         112 | Jose Manuel        | Urman             |         7800.00 |       NULL | NULL               | NULL              |          NULL |
|         114 | Den                | Raphaely          |        11000.00 |       NULL | NULL               | NULL              |          NULL |
|         115 | Alexander          | Khoo              |         3100.00 |        114 | Den                | Raphaely          |      11000.00 |
|         116 | Shelli             | Baida             |         2900.00 |        114 | Den                | Raphaely          |      11000.00 |
|         117 | Sigal              | Tobias            |         2800.00 |        114 | Den                | Raphaely          |      11000.00 |
|         118 | Guy                | Himuro            |         2600.00 |        114 | Den                | Raphaely          |      11000.00 |
|         119 | Karen              | Colmenares        |         2500.00 |        114 | Den                | Raphaely          |      11000.00 |
|         120 | Matthew            | Weiss             |         8000.00 |       NULL | NULL               | NULL              |          NULL |
|         122 | Payam              | Kaufling          |         7900.00 |       NULL | NULL               | NULL              |          NULL |
|         123 | Shanta             | Vollman           |         6500.00 |       NULL | NULL               | NULL              |          NULL |
|         124 | Kevin              | Mourgos           |         5800.00 |       NULL | NULL               | NULL              |          NULL |
|         125 | Julia              | Nayer             |         3200.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         126 | Irene              | Mikkilineni       |         2700.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         127 | James              | Landry            |         2400.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         128 | Steven             | Markle            |         2200.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         130 | Mozhe              | Atkinson          |         2800.00 |       NULL | NULL               | NULL              |          NULL |
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
26 rows in set (0.00 sec)
```

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

```
mysql> SELECT
    ->     e.employee_id AS employee_id,
    ->     e.first_name AS employee_first_name,
    ->     e.last_name AS employee_last_name,
    ->     e.salary AS employee_salary,
    ->     m.employee_id AS manager_id,
    ->     m.first_name AS manager_first_name,
    ->     m.last_name AS manager_last_name,
    ->     m.salary AS manager_salary
    -> FROM
    ->     employees e
    -> LEFT JOIN
    ->     employees m ON e.manager_id = m.employee_id;
```

```
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
| employee_id | employee_first_name | employee_last_name | employee_salary | manager_id | manager_first_name | manager_last_name | manager_salary |
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
|         101 | Neena              | Kochhar           |        17000.00 |       NULL | NULL               | NULL              |          NULL |
|         102 | Lex                | De Haan           |        17000.00 |       NULL | NULL               | NULL              |          NULL |
|         104 | Bruce              | Ernst             |         6000.00 |       NULL | NULL               | NULL              |          NULL |
|         105 | David              | Austin            |         4800.00 |       NULL | NULL               | NULL              |          NULL |
|         106 | Valli              | Pataballa         |         4800.00 |       NULL | NULL               | NULL              |          NULL |
|         107 | Diana              | Lorentz           |         4200.00 |       NULL | NULL               | NULL              |          NULL |
|         108 | Nancy              | Greenberg         |        12000.00 |        101 | Neena              | Kochhar           |      17000.00 |
|         109 | Daniel             | Faviet            |         9000.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         110 | John               | Chen              |         8200.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         111 | Ismael             | Sciarra           |         7700.00 |        108 | Nancy              | Greenberg         |      12000.00 |
|         112 | Jose Manuel        | Urman             |         7800.00 |       NULL | NULL               | NULL              |          NULL |
|         114 | Den                | Raphaely          |        11000.00 |       NULL | NULL               | NULL              |          NULL |
|         115 | Alexander          | Khoo              |         3100.00 |        114 | Den                | Raphaely          |      11000.00 |
|         116 | Shelli             | Baida             |         2900.00 |        114 | Den                | Raphaely          |      11000.00 |
|         117 | Sigal              | Tobias            |         2800.00 |        114 | Den                | Raphaely          |      11000.00 |
|         118 | Guy                | Himuro            |         2600.00 |        114 | Den                | Raphaely          |      11000.00 |
|         119 | Karen              | Colmenares        |         2500.00 |        114 | Den                | Raphaely          |      11000.00 |
|         120 | Matthew            | Weiss             |         8000.00 |       NULL | NULL               | NULL              |          NULL |
|         122 | Payam              | Kaufling          |         7900.00 |       NULL | NULL               | NULL              |          NULL |
|         123 | Shanta             | Vollman           |         6500.00 |       NULL | NULL               | NULL              |          NULL |
|         124 | Kevin              | Mourgos           |         5800.00 |       NULL | NULL               | NULL              |          NULL |
|         125 | Julia              | Nayer             |         3200.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         126 | Irene              | Mikkilineni       |         2700.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         127 | James              | Landry            |         2400.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         128 | Steven             | Markle            |         2200.00 |        120 | Matthew            | Weiss             |       8000.00 |
|         130 | Mozhe              | Atkinson          |         2800.00 |       NULL | NULL               | NULL              |          NULL |
+-------------+--------------------+-------------------+-----------------+------------+--------------------+-------------------+---------------+
26 rows in set (0.56 sec)
```

6. Create a view for the above query

```
mysql> CREATE VIEW employee_manager_view AS
    -> SELECT
    ->     e.employee_id AS employee_id,
    ->     e.first_name AS employee_first_name,
    ->     e.last_name AS employee_last_name,
    ->     e.salary AS employee_salary,
    ->     m.employee_id AS manager_id,
    ->     m.first_name AS manager_first_name,
    ->     m.last_name AS manager_last_name,
    ->     m.salary AS manager_salary
    -> FROM
    ->     employees e
    -> LEFT JOIN
    ->     employees m ON e.manager_id = m.employee_id;
Query OK, 0 rows affected (11.40 sec)
```

```
mysql> SELECT * FROM employee_manager_view;
+-------------+---------------------+--------------------+-----------------+------------+--------------------+-------------------+----------------+
| employee_id | employee_first_name | employee_last_name | employee_salary | manager_id | manager_first_name | manager_last_name | manager_salary |
+-------------+---------------------+--------------------+-----------------+------------+--------------------+-------------------+----------------+
|         101 | Neena               | Kochhar            |        17000.00 |       NULL | NULL               | NULL              |           NULL |
|         102 | Lex                 | De Haan            |        17000.00 |       NULL | NULL               | NULL              |           NULL |
|         104 | Bruce               | Ernst              |         6000.00 |       NULL | NULL               | NULL              |           NULL |
|         105 | David               | Austin             |         4800.00 |       NULL | NULL               | NULL              |           NULL |
|         106 | Valli               | Pataballa          |         4800.00 |       NULL | NULL               | NULL              |           NULL |
|         107 | Diana               | Lorentz            |         4200.00 |       NULL | NULL               | NULL              |           NULL |
|         108 | Nancy               | Greenberg          |        12000.00 |        101 | Neena              | Kochhar           |       17000.00 |
|         109 | Daniel              | Faviet             |         9000.00 |        108 | Nancy              | Greenberg         |       12000.00 |
|         110 | John                | Chen               |         8200.00 |        108 | Nancy              | Greenberg         |       12000.00 |
|         111 | Ismael              | Sciarra            |         7700.00 |        108 | Nancy              | Greenberg         |       12000.00 |
|         112 | Jose Manuel         | Urman              |         7800.00 |       NULL | NULL               | NULL              |           NULL |
|         114 | Den                 | Raphaely           |        11000.00 |       NULL | NULL               | NULL              |           NULL |
|         115 | Alexander           | Khoo               |         3100.00 |        114 | Den                | Raphaely          |       11000.00 |
|         116 | Shelli              | Baida              |         2900.00 |        114 | Den                | Raphaely          |       11000.00 |
|         117 | Sigal               | Tobias             |         2800.00 |        114 | Den                | Raphaely          |       11000.00 |
|         118 | Guy                 | Himuro             |         2600.00 |        114 | Den                | Raphaely          |       11000.00 |
|         119 | Karen               | Colmenares         |         2500.00 |        114 | Den                | Raphaely          |       11000.00 |
|         120 | Matthew             | Weiss              |         8000.00 |       NULL | NULL               | NULL              |           NULL |
|         122 | Payam               | Kaufling           |         7900.00 |       NULL | NULL               | NULL              |           NULL |
|         123 | Shanta              | Vollman            |         6500.00 |       NULL | NULL               | NULL              |           NULL |
|         124 | Kevin               | Mourgos            |         5800.00 |       NULL | NULL               | NULL              |           NULL |
|         125 | Julia               | Nayer              |         3200.00 |        120 | Matthew            | Weiss             |        8000.00 |
|         126 | Irene               | Mikkilineni        |         2700.00 |        120 | Matthew            | Weiss             |        8000.00 |
|         127 | James               | Landry             |         2400.00 |        120 | Matthew            | Weiss             |        8000.00 |
|         128 | Steven              | Markle             |         2200.00 |        120 | Matthew            | Weiss             |        8000.00 |
|         130 | Mozhe               | Atkinson           |         2800.00 |       NULL | NULL               | NULL              |           NULL |
+-------------+---------------------+--------------------+-----------------+------------+--------------------+-------------------+----------------+
26 rows in set (0.03 sec)
```

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

```
mysql> SELECT
    ->     manager_id,
    ->     manager_first_name,
    ->     manager_last_name,
    ->     COUNT(employee_id) AS num_employees
    -> FROM
    ->     employee_manager_view
    -> GROUP BY
    ->     manager_id, manager_first_name, manager_last_name
    -> ORDER BY
    ->     num_employees DESC;
+------------+--------------------+-------------------+---------------+
| manager_id | manager_first_name | manager_last_name | num_employees |
+------------+--------------------+-------------------+---------------+
|       NULL | NULL               | NULL              |            13 |
|        114 | Den                | Raphaely          |             5 |
|        120 | Matthew            | Weiss             |             4 |
|        108 | Nancy              | Greenberg         |             3 |
|        101 | Neena              | Kochhar           |             1 |
+------------+--------------------+-------------------+---------------+
5 rows in set (0.07 sec)

mysql>
```

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 (0.00 sec)
```

9. Get the count of employees hired year wise

```
mysql> select year(hire_date) as hire_year, count(*) as employee_count from employees group by (hire_date) order by hire_year;
+-----------+----------------+
| hire_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)

11.Select the employees whose first_name contains "an"

```
mysql> select * from employees where firstname like'%an%';
+-------------+-------------+-----------+----------+--------------+------------+------------+----------+---------------+------------+---------------+
| Employee_id | firstname   | lastname  | email    | phonenumber  | hire_date  | job_id     | salary   | commision_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 (_ _ _)-(_ _ _)-(_ _ _ _)

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 | firstname | lastname  | email    | phonenumber  | hire_date  | job_id     | salary   | commision_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 (0.01 sec)
```

14. Find the maximum salary from each department.

```
mysql> select department_id,
    -> max(salary) as max_salary
    -> from employees
    -> group by employee_id;
+---------------+-------------+
| department_id | max_salary  |
+---------------+-------------+
|            20 |    17000.00 |
|            30 |    17000.00 |
|            60 |     6000.00 |
|            60 |     4800.00 |
|            40 |     4800.00 |
|            40 |     4200.00 |
|           100 |    12000.00 |
|           170 |     9000.00 |
|           170 |     8200.00 |
|           160 |     7700.00 |
|           150 |     7800.00 |
|            30 |    11000.00 |
|            80 |     3100.00 |
|            70 |     2900.00 |
|            30 |     2800.00 |
|            60 |     2600.00 |
|           130 |     2500.00 |
|            50 |     8000.00 |
|            40 |     7900.00 |
|            50 |     6500.00 |
|            80 |     5800.00 |
|            50 |     3200.00 |
|            50 |     2700.00 |
|            90 |     2400.00 |
|            50 |     2200.00 |
|           110 |     2800.00 |
+---------------+-------------+
26 rows in set (0.01 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 | firstname | lastname    | email    | phonenumber  | hire_date  | job_id   | salary  | commision_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 | firstname | lastname | email    | phonenumber  | hire_date  | job_id | salary   | commision_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 | firstname | lastname  | email    | phonenumber  | hire_date  | job_id  | salary   | commision_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)
```