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 ( 20, 'Marketing', 180);
INSERT INTO departments VALUES ( 30, 'Purchasing', 1700);
INSERT INTO departments VALUES ( 40, 'Human Resources', 2400);
INSERT INTO departments VALUES ( 50, 'Shipping', 1500);
INSERT INTO departments VALUES ( 60 , 'IT', 1400);
INSERT INTO departments VALUES ( 70, 'Public Relations', 2700);
INSERT INTO departments VALUES ( 80 , 'Sales', 2500 );
INSERT INTO departments VALUES ( 90 , 'Executive', 1700);
INSERT INTO departments VALUES ( 100 , 'Finance', 1700);
INSERT INTO departments VALUES ( 110 , 'Accounting', 1700);
INSERT INTO departments VALUES ( 120 , 'Treasury' , 1700);
INSERT INTO departments VALUES ( 130 , 'Corporate Tax' , 1700 );
INSERT INTO departments VALUES ( 140, 'Control And Credit'
, 1700);
INSERT INTO departments VALUES ( 150 , 'Shareholder Services',
1700);
INSERT INTO departments VALUES ( 160 , 'Benefits', 1700);
```

employees table

```
INSERT INTO employees VALUES (100, 'Steven', 'King', 'SKING',
'515.123.4567', '1987-06-17' , 'AD PRES', 24000 , NULL, NULL, 20);
Insertinto 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 ,
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);
```

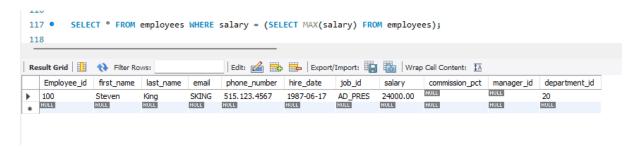
```
INSERT INTO employees VALUES (112 , 'Jose Manuel' , 'Urman' ,
'JMURMAN' , '515.124.4469' , '1998-06-03', 'FI ACCOUNT' , 7800 ,
NULL 8 , 150);
INSERT INTO employees VALUES (114 , 'Den' , 'Raphaely' , 'DRAPHEAL'
, '515.127.4561' , '1994-11-08', 'PU MAN' , 11000 , NULL , 100 ,
30);
INSERT INTO employees VALUES (115 , 'Alexander' , 'Khoo' , 'AKHOO' ,
'515.127.4562' , '1995-05-12', 'PU CLERK' , 3100 , NULL , 114 ,
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 ,
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 ,
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 ,
INSERT INTO employees VALUES (128, 'Steven', 'Markle', 'SMARKLE',
'650.124.1434' , '2000-03-04' , 'ST CLERK' , 2200 , NULL , 120 ,
INSERT INTO employees VALUES (130, 'Mozhe', 'Atkinson', 'MATKINSO'
, '650.124.6234' , '1997-10-12' , 'ST CLERK' , 2800 , NULL , 121 ,
110);
```

Solve SQL Exercises

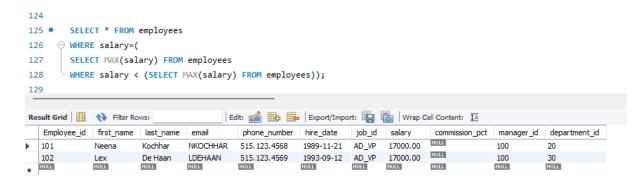
1. Select employees first name, last name, job_id and salary whose first name starts with alphabet S



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



3. Select employee with the second highest salary



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

> SELECT							
> e.emplo	yee_id AS employee_id	,					
> e.first	_name AS employee_fir	st_name,					
	name AS employee_last_i	name,					
-> e.salary	/ AS employee_salary,						
	m.employee_id FROM emp						
	m.first_name FROM emp:						
	m.last_name FROM emple						
	m.salary FROM employ		e_id =e.manager_id) AS manager_:	salary		
-> FROM emp	oloyees e ORDER BY man						
	employee_first_name						tt
proyee_ia	employee_first_name	employee_last_name	employee_salary	manager_10	manager_tirst_name	manager_last_name	manager_salary
100	Steven	King	24000.00	NULL	NULL	NULL	NULL
101	Neena	Kochhar	17000.00	100	Steven	King	24000.00
102	Lex	De Haan	17000.00	100	Steven	King	24000.00
114	Den	Raphaely	11000.00	100	Steven	King	24000.00
120	Matthew	Weiss	8000.00	100	Steven	King	24000.00
121	Adam	Fripp	8200.00	100	Steven	King	24000.00
122	Payam	Kaufling	7900.00	100	Steven	King	24000.00
123	Shanta	Vollman	6500.00	100	Steven	King	24000.00
124	Kevin	Mourgos	5800.00	100	Steven	King	24000.00
108	Nancy	Greenberg	12000.00	101	Neena	Kochhar	17000.00
103	Alexander	Hunold	9000.00	102	Lex	De Haan	17000.00
104	Bruce	Ernst	6000.00	103	Alexander	Hunold	9000.00
105	David	Austin	4800.00	103	Alexander	Hunold	9000.00
106	Valli	Pataballa	4800.00	103	Alexander	Hunold	9000.00
107	Diana	Lorentz	4200.00	103	Alexander	Hunold	9000.00
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	108	Nancy	Greenberg	12000.00
113	Luis	Popp	6900.00	108	Nancy	Greenberg	12000.00
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
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
129	Laura	Bissot	3300.00	121	Adam	Fripp	8200.00
130	Mozhe	Atkinson	2800.00	121	Adam	Fripp	8200.00

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

```
nysql>
vsal> 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
   -> INNER 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 |
                                                                      17000.00
                                                                                               Steven
         101 | Neena
                                       Kochhar
                                                                                         100
                                                                                                                      King
                                                                                                                                                   24000.00
                                                                                                                       King
De Haan
                                                                      17000.00
                                                                                         100
                                                                                                                                                   24000.00
         102
                                       De Haan
                                                                                                Steven
               Alexander
                                       Hunold
                                                                       9000.00
                                                                                                                                                   17000.00
                                                                                         102
               Bruce
                                                                       6000.00
                                                                                                Alexander
                                                                                                                       Hunold
                                                                                                                                                    9000.00
         105
               David
                                       Austin
                                                                       4800.00
                                                                                                Alexander
                                                                                                                       Hunold
                                                                                                                                                    9000.00
               Valli
                                       Pataballa
                                                                       4800.00
                                                                                                Alexander
                                                                                                                       Hunold
                                                                                                                                                    9000.00
         106
                                                                                         103
         107
                                                                       4200.00
                                                                                                Alexander
                                                                                                                       Hunold
                                                                                                                                                    9000.00
               Diana
                                                                                         103
                                       Lorentz
                                       Greenberg
                                                                                                Neena
                                                                                                                                                   17000.00
                Nancy
         109
               Daniel
                                       Faviet
                                                                       9000.00
                                                                                                Nancy
                                                                                                                       Greenberg
                                                                                                                                                   12000.00
         110
                John
                                       Chen
                                                                       8200.00
                                                                                         108
                                                                                                Nancy
                                                                                                                       Greenberg
                                                                                                                                                   12000.00
               Ismael
                                                                                                                      Greenberg
                                       Sciarra
                                                                       7700.00
                                                                                                Nancy
                                                                                                                                                   12000.00
                                                                                         108
                Jose Manuel
                                                                       7800.00
                                                                                         108
                                                                                                Nancy
                                                                                                                       Greenberg
                                                                                                                                                   12000.00
                                        Urman
                                                                                                Nancy
                                                                                                                                                   12000.00
                                        Popp
                                                                                                                      King
Raphaely
                                       Raphaely
                                                                      11000.00
                                                                                         100
                                                                                                Steven
                                                                                                                                                   24000.00
               Alexander
                                                                                                                                                   11000.00
                                       Khoo
                                                                       3100.00
                                                                                         114
                                                                                               Den
                                       Baida
               Shelli
                                                                                                                       Raphaely
                                                                                                                                                   11000.00
                                                                       2900.00
                                                                                               Den
                                                                       2800.00
                                                                                                                                                   11000.00
               Sigal
                                                                                                                       Raphaely
                                       Himuro
                                                                       2600.00
                                                                                                Den
                                                                                                                       Raphaely
                                                                                                                                                   11000.00
               Karen
                                       Colmenares
                                                                       2500.00
                                                                                                Den
                                                                                                                       Raphaely
                                                                                                                                                   11000.00
         120
               Matthew
                                       Weiss
                                                                       8000.00
                                                                                         100
                                                                                                Steven
                                                                                                                      King
                                                                                                                                                   24000.00
                                                                                                                      King
               Adam
                                       Fripp
                                                                       8200.00
                                                                                         100
                                                                                                Steven
                                                                                                                                                   24000.00
               Payam
                                        Kaufling
                                                                       7900.00
                                                                                          100
                                                                                                Steven
                                                                                                                       King
                                                                                                                                                   24000.00
               Shanta
                                        Vollman
                                                                       6500.00
                                                                                          100
                                                                                                                       King
                                                                                                                                                   24000.00
         124
               Kevin
                                       Mourgos
                                                                       5800.00
                                                                                         100
                                                                                                Steven
                                                                                                                       King
                                                                                                                                                   24000.00
               Julia
                                       Nayer
Mikkilineni
                                                                       3200.00
                                                                                         120
                                                                                                Matthew
                                                                                                                                                    8000.00
                                                                                                                       Weiss
               Irene
                                                                       2700.00
                                                                                         120
                                                                                                Matthew
                                                                                                                       Weiss
                                                                                                                                                    8000.00
                                       Landry
Markle
                                                                       2400.00
                                                                                          120
                                                                                                                                                    8000.00
                James
                                                                                                Matthew
         128
               Steven
                                                                       2200.00
                                                                                         120
                                                                                                Matthew
                                                                                                                       Weiss
                                                                                                                                                    8000.00
                                       Bissot
         129
               Laura
                                                                       3300.00
                                                                                               Adam
                                                                                                                                                    8200.00
                                                                                               Adam
                                                                                                                       Fripp
                                                                                                                                                    8200.00
         130
               Mozhe
                                       Atkinson
                                                                       2800.00
                                                                                         121
```

6. Create a view for the above query

```
CREATE VIEW Employee_Manager_details AS

SELECT

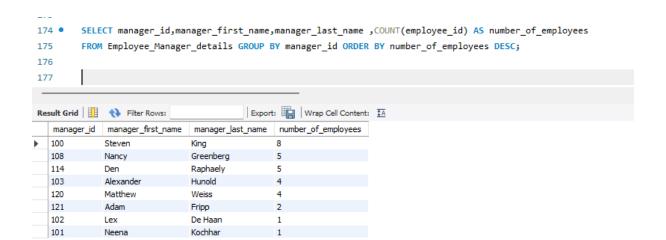
e.employee_id AS employee_id,
e.first_name AS employee_first_name,
e.last_name AS employee_last_name,
e.salary AS employee_salary,
m.employee_id AS manager_id,
m.first_name AS manager_first_name,
m.last_name AS manager_last_name,
m.salary AS manager_salary

FROM employees e

INNER JOIN employees m ON e.manager_id=m.employee_id;
```

ployee_id	employee_first_name	employee_last_name	employee_salary	manager_id	manager_first_name	manager_last_name	manager_salar
101	Neena	Kochhar	17000.00	100	Steven	King	24000.0
102	Lex	De Haan	17000.00	100	Steven	King	24000.0
103	Alexander	Hunold	9000.00	102	Lex	De Haan	17000.0
104	Bruce	Ernst	6000.00	103	Alexander	Hunold	9000.0
105	David	Austin	4800.00	103	Alexander	Hunold	9000.0
106	Valli	Pataballa	4800.00	103	Alexander	Hunold	9000.0
107	Diana	Lorentz	4200.00	103	Alexander	Hunold	9000.0
108	Nancy	Greenberg	12000.00	101	Neena	Kochhar	17000.0
109	Daniel	Faviet	9000.00	108	Nancy	Greenberg	12000.0
110	John	Chen	8200.00	108	Nancy	Greenberg	12000.0
111	Ismael	Sciarra	7700.00	108	Nancy	Greenberg	12000.0
112	Jose Manuel	Urman	7800.00	108	Nancy	Greenberg	12000.0
113	Luis	Popp	6900.00	108	Nancy	Greenberg	12000.0
114	Den	Raphaely	11000.00	100	Steven	King	24000.0
115	Alexander	Khoo	3100.00	114	Den	Raphaely	11000.0
116	Shelli	Baida	2900.00	114	Den	Raphaely	11000.0
117	Sigal	Tobias	2800.00	114	Den	Raphaely	11000.0
118	Guy	Himuro	2600.00	114	Den	Raphaely	11000.0
119	Karen	Colmenares	2500.00	114	Den	Raphaely	11000.0
120	Matthew	Weiss	8000.00	100	Steven	King	24000.0
121	Adam	Fripp	8200.00	100	Steven	King	24000.0
122	Payam	Kaufling	7900.00	100	Steven	King	24000.0
123	Shanta	Vollman	6500.00	100	Steven	King	24000.0
124	Kevin	Mourgos	5800.00	100	Steven	King	24000.0
125	Julia	Nayer	3200.00	120	Matthew	Weiss	8000.0
126	Irene	Mikkilineni	2700.00	120	Matthew	Weiss	8000.0
127	James	Landry	2400.00	120	Matthew	Weiss	8000.0
128	Steven	Markle	2200.00	120	Matthew	Weiss	8000.0
129	Laura	Bissot	3300.00	121	Adam	Fripp	8200.0
130	Mozhe	Atkinson	2800.00	121	Adam	Fripp	8200.0

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



8. Find the count of employees in each department

```
nysql> SELECT
   -> d.department_id,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_id, d.department_name ORDER BY d.department_id;
 department_id | department_name | employee_count |
             20 | Marketing
30 | Purchasing
             40 Human Resources
             50 | Shipping
                 | Public Relations
             70
                 Sales
             80
             90
                   Executive
             100
                   Finance
                                                           1
                 Accounting
                                                           1
             110
            120 Treasury
                                                           0
            130 | Corporate Tax
140 | Control And Credit |
150 | Shareholder Services |
160 | Benefits
                                                           1
                                                           1
            170 | Payroll
16 rows in set (0.00 sec)
```

9. Get the count of employees hired year wise

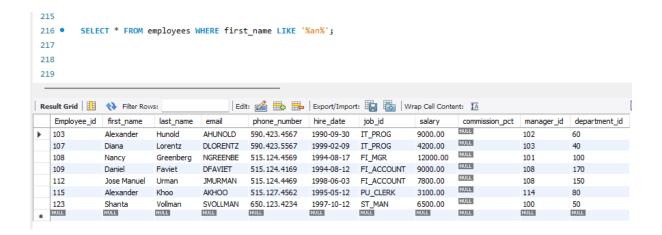
```
mysql> SELECT YEAR(hire_date) AS hired_year,COUNT(employee_id)
   -> FROM employees
   -> GROUP BY YEAR(hire_date) ORDER BY YEAR(hire_date);
 hired_year | COUNT(employee_id) |
       1987
                                1
       1989
       1990
                                1
       1991
        1993
                                1
        1994
                                3
        1995
        1996
                                1
        1997
                               10
        1998
                                4
        1999
        2000
12 rows in set (0.00 sec)
```

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

_

```
DELIMITER !!
261
        CREATE PROCEDURE Employee_count_by_year(IN input_year INT ,
262 •
                                                                  OUT employee_count INT)
263
       SELECT COUNT(*) INTO employee_count FROM employees
264
265
        WHERE YEAR(hire_date) = input_year;
       END !!
266
267
       DELIMITER;
       CALL Employee_count_by_year(1994,@employee_count);
        SELECT @employee_count AS count_of_emloyess_at_1994;
269 •
270
Export: Wrap Cell Content: IA
  count_of_emloyess_at_1994
```

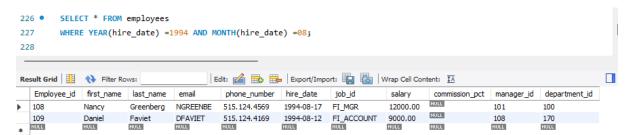
11. Select the employees whose first_name contains "an"



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

```
mysql> SELECT first_name, phone_number FROM employees;
              | phone_number
 first_name
 Steven
               515.123.4567
               515.123.4568
 Neena
               515.123.4569
 Alexander
              590.423.4567
 Bruce
               590.423.4568
 David
               590.423.4569
 Valli
               590.423.4560
               590.423.5567
 Diana
              515.124.4569
 Nancy
 Daniel
              515.124.4169
 John
              515.124.4269
 Ismael
              515.124.4369
  Jose Manuel
               515.124.4469
               515.124.4567
 Luis
 Den
               515.127.4561
 Alexander
               515.127.4562
 Shelli
               515.127.4563
 Sigal
               515.127.4564
 Guy
               515.127.4565
               515.127.4566
 Karen
              650.123.1234
 Matthew
 Adam
               650.123.2234
 Payam
              650.123.3234
              650.123.4234
 Shanta
 Kevin
              650.123.5234
 Julia
              650.124.1214
              650.124.1224
 Irene
               650.124.1334
  James
 Steven
               650.124.1434
 Laura
               650.124.5234
 Mozhe
              650.124.6234
31 rows in set (0.00 sec)
```

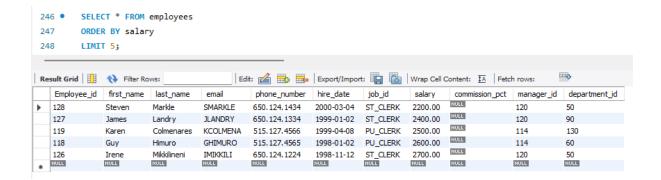
13. Find the employees who joined in August, 1994.



14. Find the maximum salary from each department

```
mysql> SELECT d.department_id,d.department_name,MAX(e.salary) AS maximum_salary
    -> FROM departments d
   -> LEFT JOIN employees e ON d.department id = e.department id
    -> GROUP BY d.department_id ,d.department_name ORDER BY d.department_id;
 department_id | department_name | maximum_salary
             20
                Marketing
                                               24000.00
                 Purchasing
            30
                                               17000.00
            40
                  Human Resources
                                                7900.00
            50
                  Shipping
                                                8200.00
             60
                  ΙT
                                                9000.00
                  Public Relations
             70
                                                2900.00
                  Sales
                                                5800.00
             80
                  Executive
            90
                                                2400.00
            100
                  Finance
                                               12000.00
                 Accounting
                                                2800.00
            110
            120
                                                   NULL
                  Treasury
                                                2500.00
            130
                  Corporate Tax
                                                6900.00
            140
                  Control And Credit
            150
                  Shareholder Services
                                                7800.00
            160
                  Benefits
                                                 7700.00
            170
                  Payroll
                                                9000.00
16 rows in set (0.00 sec)
```

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



16. Find the employees hired in the 80s



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

