

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);
```

```
INSERT INTO departments VALUES ( 170 , 'Payroll' , 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 , 170);
```

```
INSERT INTO employees VALUES (110 , 'John' , 'Chen' , 'JCHEN' ,  
'515.124.4269' , '1997-04-09', 'FI_ACCOUNT' , 8200 , NULL , 108 ,  
170);
```

```
INSERT INTO employees VALUES (111 , 'Ismael' , 'Sciarra' ,  
'ISCIARRA' , '515.124.4369' , '1997-02-01', 'FI_ACCOUNT' , 7700 ,  
NULL , 108 , 160);
```

```
INSERT INTO employees VALUES (112 , 'Jose Manuel' , 'Urman' ,  
'JMURMAN' , '515.124.4469' , '1998-06-03', 'FI_ACCOUNT' , 7800 ,  
NULL 8 , 150);
```

```
INSERT INTO employees VALUES (114 , 'Den' , 'Raphaely' ,  
'DRAPHEAL' , '515.127.4561' , '1994-11-08', 'PU_MAN' , 11000 ,  
NULL , 100 , 30);
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solve SQL Exercises

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

```
7963 • SELECT first_name, last_name, job_id, salary
7964 FROM employees
7965 WHERE first_name LIKE 'S%';
```

< | first_name | last_name | job_id | salary |
| --- | --- | --- | --- |
| Steven | King | AD_PRE | 24000.00 |
| Shelli | Baida | PU_CLERK | 2900.00 |
| Sigal | Tobias | PU_CLERK | 2800.00 |
| Shanta | Vollman | ST_MAN | 6500.00 |
| Steven | Markle | ST_CLERK | 2200.00 |

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

```
7967
7968 • select first_name, last_name, job_id, salary
7969 from employees
7970 where salary=(select max(salary) from employees);
```

< | first_name | last_name | job_id | salary |
| --- | --- | --- | --- |
| Steven | King | AD_PRE | 24000.00 |

3. Select employee with the second highest salary

```

7972 • select first_name, last_name, job_id, salary
7973 from employees
7974 where salary=(select max(salary) from employees
7975                where salary<(select max(salary) from employees));

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
first_name	last_name	job_id	salary
Neena	Kochhar	AD_VP	17000.00
Lex	De Haan	AD_VP	17000.00

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

```

7978 • select
7979 e.employee_id as employeeID,
7980 e.first_name as employeefirstname,
7981 e.last_name as empolyeeelastname,
7982 e.salary as employeesalary,
7983 m.employee_id as managerID,
7984 m.first_name as managerfirstname,
7985 m.last_name as managerlastname,
7986 m.salary as managersalary
7987 from
7988 employees e
7989 left join
7990 employees m on e.manager_id=m.employee_id;

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

TA

employeeID	employeefirstname	empolyeeelastname	employeesalary	managerID	managerfirstname	managerlastname	managersalary
100	Steven	King	24000.00				
101	Neena	Kochhar	17000.00	100	Steven	King	24000.00
102	Lex	De Haan	17000.00	100	Steven	King	24000.00
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
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	108	Nancy	Greenberg	12000.00
113	Luis	Popp	6900.00	108	Nancy	Greenberg	12000.00
114	Den	Raphaely	11000.00	100	Steven	King	24000.00
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
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	Mourons	5800.00	100	Steven	Kinn	24000.00

Result 1

×

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

```

7994 • select
7995     e.employee_id as employeeID,
7996     e.first_name as employeefirstname,
7997     e.last_name as empolyeeelastname,
7998     e.salary as employeesalary,
7999     m.employee_id as managerID,
8000     m.first_name as managerfirstname,
8001     m.last_name as managerlastname,
8002     m.salary as managersalary
8003 from
8004     employees e
8005 join
8006     employees m on e.manager_id=m.employee_id;
8007

```

employeeID	employeefirstname	empolyeeelastname	employeesalary	managerID	managerfirstname	managerlastname	managersalary
101	Neena	Kochhar	17000.00	100	Steven	King	24000.00
102	Lex	De Haan	17000.00	100	Steven	King	24000.00
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
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	108	Nancy	Greenberg	12000.00
113	Luis	Popp	6900.00	108	Nancy	Greenberg	12000.00
114	Den	Raphaely	11000.00	100	Steven	King	24000.00
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
120	Matthew	Weiss	8000.00	100	Steven	King	24000.00
121	Adam	Frip	8200.00	100	Steven	King	24000.00
122	Payam	Kaufing	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

6. Create a view for the above query

```

8008 • create view employeeemanager as
8009     select
8010         e.employee_id as employeeID,
8011         e.first_name as employeefirstname,
8012         e.last_name as empolyeeelastname,
8013         e.salary as employeesalary,
8014         m.employee_id as managerID,
8015         m.first_name as managerfirstname,
8016         m.last_name as managerlastname,
8017         m.salary as managersalary
8018     from
8019         employees e
8020     join
8021         employees m on e.manager_id=m.employee_id;

```

Output

#	Time	Action	Message
2	15:04:06	select e.employee_id as employeeID, e.first_name as employeefirstname, e.last_name as empolyeeelastname, e.salary as employeesalary, m.employee_id as managerID, m.first_name as managerfirstname, m.last_name as managerlastname, m.salary as managersalary from employees e join employees m on e.manager_id=m.employee_id;	30 row(s) returned

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


```

8023 • select
8024     managerID,managerfirstname,managerlastname,
8025     count(employeeID) as employeecount
8026 from
8027     employeemanager
8028 group by
8029     managerID,managerfirstname,managerlastname
8030 order by
8031     employeecount desc;




```

Result Grid				
Filter Rows: <input type="text"/>				
Export:  Wrap Cell Content: 				
	managerID	managerfirstname	managerlastname	employeecount
▶	100	Steven	King	8
	108	Nancy	Greenberg	5
	114	Den	Raphaely	5
	103	Alexander	Hunold	4
	120	Matthew	Weiss	4
	121	Adam	Fripp	2
	102	Lex	De Haan	1
	101	Neena	Kochhar	1

8. Find the count of employees in each department

```
8033 • select
8034     department_id,
8035     count(employee_id) as employeecount
8036 from
8037     employees
8038 group by
8039     department_id;
```

<

Result Grid   Filter Rows: Export:  Wrap

	department_id	employeecount
▶	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

9. Get the count of employees hired year wise

```

8041 • select
8042     year(hire_date) as hireyear,
8043     count(employee_id) as employeecount
8044 from
8045     employees
8046 group by
8047     year(hire_date)
8048 order by
8049     year(hire_date);
8050

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	hireyear	employeecount			
▶	1987	1			
	1989	1			
	1990	1			
	1991	1			
	1993	1			
	1994	3			
	1995	2			
	1996	1			
	1997	10			
	1998	4			
	1999	5			
	2000	1			

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

```

8052 delimiter $
8053 • create procedure getemployeecountbyyear(in inputyear int,out employeecount i
8054 • begin
8055 • select count(*)
8056 • into employeecount
8057 • from employees
8058 • where year(hire_date)=inputyear;
8059 • end $
8060 delimiter ;
8061
8062 • call getemployeecountbyyear(1995,@employeecount);
8063 • select @employeecount;
8064

```

Result Grid

	@employeecount
▶	2

11. Select the employees whose first_name contains “an”

```

8062 • call getemployeecountbyyear(1995,@employeecount);
8063 • select @employeecount;
8064
8065 • select *
8066 • from employees
8067 • where first_name like '%an%';
8068

```

Result Grid

	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	9000.00	NULL	102	60
	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	108	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
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

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

```

8069 • select
8070 first_name,
8071 concat('(', substring(phone_number,1,3),')-(', substring(phone_number,5,3),')-(', substring(phone_number,9,4),')') as newphonenumber
8072 from
8073 employees;
8074

```

first_name	newphonenumber
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)
Guv	(515)-(127)-(4565)

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

```

8075 • select *
8076 from employees
8077 where year(hire_date)=1994 and month(hire_date)=8;
8078
8079

```

Employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id	department_id
108	Nancy	Greenberg	NGREENBE	515.124.4569	1994-08-17	FI_MGR	12000.00	NULL	101	100
109	Daniel	Faviet	DFAVIET	515.124.4169	1994-08-12	FI_ACCOUNT	9000.00	NULL	108	170
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

14. Find the maximum salary from each department.

```

8079 • select
8080 department_id,
8081 max(salary) as maxmiumsalary
8082 from
8083 employees
8084 group by
8085 department_id;
8086

```

department_id	maxmiumsalary
20	24000.00
30	17000.00
40	7900.00
50	8200.00
60	9000.00
70	2900.00
80	5800.00
90	2400.00
100	12000.00
110	2800.00
130	2500.00
140	6900.00
150	7800.00
160	7700.00
170	9000.00

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

```

8087 • select *
8088 from employees
8089 order by salary asc
8090 limit 5;
8091

```

Employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id	department_id
128	Steven	Markle	SMARKLE	650.124.1434	2000-03-04	ST_CLERK	2200.00	NULL	120	50
127	James	Landry	JLANDRY	650.124.1334	1999-01-02	ST_CLERK	2400.00	NULL	120	90
119	Karen	Colmenares	KCOLMENA	515.127.4566	1999-04-08	PU_CLERK	2500.00	NULL	114	130
118	Guy	Himuro	GHIMURO	515.127.4565	1998-01-02	PU_CLERK	2600.00	NULL	114	60
126	Irene	Mikkilineni	IMIKKILI	650.124.1224	1998-11-12	ST_CLERK	2700.00	NULL	120	50

16. Find the employees hired in the 80s

[illegible]

```
8096 select *
8097 from employees
8098 where day(hire_date)>15;
```

[illegible]

