

Company Database Schema

Here is the schema of a company database, please implement it on any RDBMS you like and then try to create the following requests (queries): "create only the dependent table with all data and relations"

Employee:

Fname	Lname	SSN	BDATE	Addresss	Gender	Salary	Superssn	Dno
Ahmed	Ali	112233	1/1/1965	15 Ali fahmy St.Giza	M	1300	223344	10
Kamel	Mohamed	223344	15/10/1970	38 Mohy el dien abo el Ezz St.Cairo	M	1800	321654	10
Hanaa	Sobhy	123456	18/3/1973	38 Abdel Khalik Tharwat St. Downtown.Cairo	F	800	223344	10
Amr	Omran	321654	14/9/1963	44 Hilopolis.Cairo	M	2500	null	null
Noha	Mohamed	968574	1/2/1975	55 Orabi St. El Mohandiseen .Cairo	F	1600	321654	20
Edward	Hanna	512463	19/8/1972	18 Abaas El 3akaad St. Nasr City.Cairo	M	1500	321654	30
Mariam	Adel	669955	12/6/1982	269 El-Haram st. Giza	F	750	512463	20
Maged	Raoof	521634	6/4/1980	18 Kholosi st.Shobra.Cairo	M	1000	968574	30

Department

Dname	DNum	MGRSSN	MGRStart Date
DP1	10	223344	1/1/2005
DP2	20	968574	1/3/2006
DP3	30	512463	1/6/2006

Works_on

ESSN	Pno	WeeklyHours
223344	100	10
223344	200	10
223344	300	10
112233	100	40
968574	400	15
968574	700	15
968574	300	10
669955	400	20
223344	500	10
669955	700	7
669955	300	10
512463	500	10
512463	600	25
521634	500	10

521634	600	20
521634	300	6
521634	400	4

Project

Pname	Pnumber	Plocation	City	Dnum
AL Solimaniah	100	Cairo_Alex Road	Alex	10
Al Rabwah	200	6th of October City	Giza	10
Al Rawdah	300	Zaied City	Giza	10
Al Rowad	400	Cairo_Faiyom Road	Giza	20
Al Rehab	500	Nasr City	Cairo	30
Pitcho american	600	Maady	Cairo	30
Ebad El Rahman	700	Ring Road	Cairo	20

Dependent

ESSN	Dependent_name	Gender	Bdate
112233	Hala Saied Ali	F	18/10/1970
223344	Ahmed Kamel Mohamed	M	27/3/1998
223344	Mona Adel Mohamed	F	25/4/1975
321654	Ramy Amr Omran	M	26/1/1990
321654	Omar Amr Omran	M	30/3/1993
321654	Sanaa Gawish	F	16/5/1973
512463	Sara Edward	F	15/9/2001
512463	Nora Ghaly	F	22/6/1976

Data Manipulating Language:

1. Insert your personal data to the employee table as a new employee in department number 30, SSN = 102672, Superssn = 112233.
 - a.

1. Insert another employee with personal data your friend as new employee in department number 30, SSN = 102660, but don't enter any value for salary or manager number to him.

1. In the department table insert new department called "DEPT IT" , with dnum = 100, employee with SSN = 112233 as a manager for this department. The start date for this manager is '1-11-2006'

1. Do what is required if you know that : Mrs.Noha Mohamed(SSN=968574) moved to be the manager of the new department (id = 100), and they give you(use your SSN from question1) her position (Dept. 20 manager)
 - a. First try to update her record in the department table

 - a. Update the department record so you could be department 20 manager.

 - a. Update your friend data(entered in question2) to be in your team (supervised by you)

1. Unfortunately the company ended the contract with Mr. Kamel Mohamed (SSN=223344) so try to delete his data from your database in case you know that you will be temporarily in his position.

Hint: (Check if Mr. Kamel has dependents, works as a department manager, supervises any employees or works in any projects and handle these cases).

1. And your salary has been upgraded by 20 percent of its last value.

Write the following Queries:

1. Display all the employees Data.
1. Display the employee First name, last name, Salary and Department number.
1. Display all the projects names, locations and the department which is responsible about it.
1. If you know that the company policy is to pay an annual commission for each employee with specific percent equals 10% of his/her annual salary .Display each employee full name and his annual commission in an ANNUAL COMM column (alias).

1. Display the employees Id, name who earns more than 1000 LE monthly.

1. Display the employees Id, name who earns more than 10000 LE **annually**.

1. Display the names and salaries of the female employees

1. Display each department id, name which managed by a manager with id equals 968574.

1. Display the ids, names and locations of the projects which controlled with department 10.

Company Database Schema

Here is the schema of a company database, please implement it on any RDBMS you like and then try to create the following requests (queries): "create only the dependent table with all data and relations"

Employee:

Fname	Lname	SSN	BDATE	Addresss	Gender	Salary	Superssn	Dno
Ahmed	Ali	112233	1/1/1965	15 Ali fahmy St.Giza	M	1300	223344	10
Kamel	Mohamed	223344	15/10/1970	38 Mohy el dien abo el Ezz St.Cairo	M	1800	321654	10
Hanaa	Sobhy	123456	18/3/1973	38 Abdel Khalik Tharwat St. Downtown.Cairo	F	800	223344	10
Amr	Omran	321654	14/9/1963	44 Hilopolis.Cairo	M	2500	null	null
Noha	Mohamed	968574	1/2/1975	55 Orabi St. El Mohandiseen .Cairo	F	1600	321654	20
Edward	Hanna	512463	19/8/1972	18 Abaas El 3akaad St. Nasr City.Cairo	M	1500	321654	30
Mariam	Adel	669955	12/6/1982	269 El-Haram st. Giza	F	750	512463	20
Maged	Raooof	521634	6/4/1980	18 Kholosi st.Shobra.Cairo	M	1000	968574	30

Department

Dname	DNum	MGRSSN	MGRStart Date
DP1	10	223344	1/1/2005
DP2	20	968574	1/3/2006
DP3	30	512463	1/6/2006

Works_on

ESSN	Pno	WeeklyHours
223344	100	10
223344	200	10
223344	300	10
112233	100	40
968574	400	15
968574	700	15
968574	300	10
669955	400	20
223344	500	10
669955	700	7
669955	300	10
512463	500	10
512463	600	25
521634	500	10

521634	600	20
521634	300	6
521634	400	4

Project

Pname	Pnumber	Plocation	City	Dnum
AL Solimaniah	100	Cairo_Alex Road	Alex	10
Al Rabwah	200	6th of October City	Giza	10
Al Rawdah	300	Zaied City	Giza	10
Al Rowad	400	Cairo_Faiyom Road	Giza	20
Al Rehab	500	Nasr City	Cairo	30
Pitcho american	600	Maady	Cairo	30
Ebad El Rahman	700	Ring Road	Cairo	20

Dependent

ESSN	Dependent_name	Gender	Bdate
112233	Hala Saied Ali	F	18/10/1970
223344	Ahmed Kamel Mohamed	M	27/3/1998
223344	Mona Adel Mohamed	F	25/4/1975
321654	Ramy Amr Omran	M	26/1/1990
321654	Omar Amr Omran	M	30/3/1993
321654	Sanaa Gawish	F	16/5/1973
512463	Sara Edward	F	15/9/2001
512463	Nora Ghaly	F	22/6/1976

Data Manipulating Language:

1. Insert your personal data to the employee table as a new employee in department number 30, SSN = 102672, Superssn = 112233.

```
mysql> select * from employee;
```

fname	lname	ssn	bdate	address	gender	salary	superssn	dno
mohamed	hamdy	102672	2002-06-04	20 ELSarawi ST	M	30000	112233	30
Ahmed	Ali	112233	1965-01-01	15 Ali fahmy St.Giza	M	1300	223344	10
Hanaa	Sobhy	123456	1973-03-18	38 Abdel Khalik Tharwat St. Downtown.Cairo	F	800	223344	10
Kamel	Mohamed	223344	1970-10-15	38 Mohy el dien abo el Ezz St.Cairo	M	1800	321654	10
Amr	Omran	321654	1963-09-14	44 Hilopolis.Cairo	M	2500	NULL	NULL
Edward	Hanna	512463	1972-08-19	18 Abaas El 3akaad St. Nasr City.Cairo	M	1500	321654	30
Maged	Raof	521634	1980-04-06	18 Kholosi st.Shobra.Cairo	M	1000	968574	30
Mariam	Adel	669955	1982-06-12	269 El-Haram st. Giza	F	750	512463	20
Noha	Mohamed	968574	1975-02-01	55 Orabi St. El Mohandiseen .Cairo	F	1600	321654	20

9 rows in set (0.00 sec)

1. Insert another employee with personal data your friend as new employee in department number 30, SSN = 102660, but don't enter any value for salary or manager number to him.

```
mysql> insert into employee (fname, lname, ssn, bdate, address, gender , dno) values ('ali', 'hamo', 102660, '2002-06-05', '20 ELSarawi ST', 'M', 30);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from employee;
```

fname	lname	ssn	bdate	address	gender	salary	superssn	dno
ali	hamo	102660	2002-06-05	20 ELSarawi ST	M	NULL	NULL	30
mohamed	hamdy	102672	2002-06-04	20 ELSarawi ST	M	30000	112233	30
Ahmed	Ali	112233	1965-01-01	15 Ali fahmy St.Giza	M	1300	223344	10
Hanaa	Sobhy	123456	1973-03-18	38 Abdel Khalik Tharwat St. Downtown.Cairo	F	800	223344	10
Kamel	Mohamed	223344	1970-10-15	38 Mohy el dien abo el Ezz St.Cairo	M	1800	321654	10
Amr	Omran	321654	1963-09-14	44 Hilopolis.Cairo	M	2500	NULL	NULL
Edward	Hanna	512463	1972-08-19	18 Abaas El 3akaad St. Nasr City.Cairo	M	1500	321654	30
Maged	Raof	521634	1980-04-06	18 Kholosi st.Shobra.Cairo	M	1000	968574	30
Mariam	Adel	669955	1982-06-12	269 El-Haram st. Giza	F	750	512463	20
Noha	Mohamed	968574	1975-02-01	55 Orabi St. El Mohandiseen .Cairo	F	1600	321654	20

10 rows in set (0.00 sec)

1. In the department table insert new department called "DEPT IT" , with dnum = 100, employee with SSN = 112233 as a manager for this department. The start date for this manager is '1-11-2006'

```
mysql> insert into department (dnum, dname, mgrssn, 'MGRStart Date') values (100, "DETP IT", 112233, "2006-11-01");
Query OK, 1 row affected (0.01 sec)

mysql> select * from department;
+-----+-----+-----+-----+
| dnum | dname | mgrssn | MGRStart Date |
+-----+-----+-----+-----+
| 10 | DP1 | 223344 | 2005-01-01 |
| 20 | DP2 | 968574 | 2006-03-01 |
| 30 | DP3 | 512463 | 2006-06-01 |
| 100 | DETP IT | 112233 | 2006-11-01 |
+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

1. Do what is required if you know that : Mrs.Noha Mohamed(SSN=968574) moved to be the manager of the new department (id = 100), and they give you(use your SSN from question1) her position (Dept. 20 manager)

- a. First try to update her record in the department table

```
mysql> update department set mgrssn = 968574 where dnum = 100;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from department;
+-----+-----+-----+-----+
| dnum | dname | mgrssn | MGRStart Date |
+-----+-----+-----+-----+
| 10 | DP1 | 223344 | 2005-01-01 |
| 20 | DP2 | 968574 | 2006-03-01 |
| 30 | DP3 | 512463 | 2006-06-01 |
| 100 | DETP IT | 968574 | 2006-11-01 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

- a. Update the department record so you could be department 20 manager.

```
mysql> update department set mgrssn = 102672 where dnum = 20;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from department;
+-----+-----+-----+-----+
| dnum | dname | mgrssn | MGRStart Date |
+-----+-----+-----+-----+
| 10 | DP1 | 223344 | 2005-01-01 |
| 20 | DP2 | 102672 | 2006-03-01 |
| 30 | DP3 | 512463 | 2006-06-01 |
| 100 | DETP IT | 968574 | 2006-11-01 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

- a. Update your friend data(entered in question2) to be in your team (supervised by you)

```
mysql> update employee set dno = 20 where ssn = 102660;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from employee;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| fname | lname | ssn | bdate | address | gender | salary | superssn | dno |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ali | hamo | 102660 | 2002-06-05 | 20 ELSarawi ST | M | NULL | NULL | 20 |
| mohamed | hamdy | 102672 | 2002-06-04 | 20 ELSarawi ST | M | 30000 | 112233 | 30 |
| Ahmed | Ali | 112233 | 1965-01-01 | 15 Ali fahmy St.Giza | M | 1300 | 223344 | 10 |
| Hanaa | Sobhy | 123456 | 1973-03-18 | 38 Abdel Khalik Tharwat St. Downtown.Cairo | F | 800 | 223344 | 10 |
| Kamel | Mohamed | 223344 | 1970-10-15 | 38 Mohy el dien abo el Ezz St.Cairo | M | 1800 | 321654 | 10 |
| Amr | Omran | 321654 | 1963-09-14 | 44 Hilopolis.Cairo | M | 2500 | NULL | NULL |
| Edward | Hanna | 512463 | 1972-08-19 | 18 Abaas El 3akaad St. Nasr City.Cairo | M | 1500 | 321654 | 30 |
| Maged | Raouf | 521634 | 1980-04-06 | 18 Kholosi st.Shobra.Cairo | M | 1000 | 968574 | 30 |
| Mariam | Adel | 669955 | 1982-06-12 | 269 EL-Haram st. Giza | F | 750 | 102672 | 20 |
| Noha | Mohamed | 968574 | 1975-02-01 | 55 Orabi St. El Mohandiseen .Cairo | F | 1600 | 102672 | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

Unfortunately the company ended the contract with Mr. Kamel Mohamed (SSN=223344) so try to delete his data from your database in case you know that you will be temporarily in his position.

Hint: (Check if Mr. Kamel has dependents, works as a department manager, supervises any employees or works in any projects and handle these cases).

```
mysql>
mysql> DELETE FROM dependent WHERE essn = 223344;
Query OK, 2 rows affected (0.01 sec)

mysql> DELETE FROM works_on WHERE essn = 223344;
Query OK, 4 rows affected (0.01 sec)
```


Write the following Queries:

1. Display all the employees Data.

```
mysql> select * from employee;
```

fname	lname	ssn	bdate	address	gender	salary	superssn	dno
ali	hamo	102660	2002-06-05	20 ELSarawi ST	M	NULL	102672	20
mohamed	hamdy	102672	2002-06-04	20 ELSarawi ST	M	36000	112233	30
Ahmed	Ali	112233	1965-01-01	15 Ali fahmy St.Giza	M	1300	102672	10
Hanaa	Sobhy	123456	1973-03-18	38 Abdel Khalik Tharwat St. Downtown.Cairo	F	800	102672	10
Amr	Omran	321654	1963-09-14	44 Hilopolis.Cairo	M	2500	NULL	NULL
Edward	Hanna	512463	1972-08-19	18 Abaas El 3akaad St. Nasr City.Cairo	M	1500	321654	30
Maged	Raof	521634	1980-04-06	18 Kholosi st.Shobra.Cairo	M	1000	968574	30
Mariam	Adel	669955	1982-06-12	269 EL-Haram st. Giza	F	750	102672	20
Noha	Mohamed	968574	1975-02-01	55 Orabi St. El Mohandiseen .Cairo	F	1600	102672	20

9 rows in set (0.00 sec)

```
mysql>
```

1. Display the employee First name, last name, Salary and Department number.

```
mysql> select fname,lname,salary,dno from employee;
```

fname	lname	salary	dno
ali	hamo	NULL	20
mohamed	hamdy	36000	30
Ahmed	Ali	21300	10
Hanaa	Sobhy	800	10
Amr	Omran	2500	NULL
Edward	Hanna	1500	30
Maged	Raouf	1000	30
Mariam	Adel	750	20
Noha	Mohamed	1600	20

9 rows in set (0.00 sec)

```
mysql>
```

1. Display all the projects names, locations and the department which is responsible about it.

```
mysql> select pname,plocation,mgrssn from project as p, department as d where p.dnum = d.dnum ;
```

pname	plocation	mgrssn
AL Solimaniah	Cairo Alex Road	102672
Al Rabwah	6th of October City	102672
Al Rawdah	Zaied City	102672
Al Rowad	Cairo Faiyom Road	102672
Al Rehab	Nasr City	512463
Pitcho american	Maady	512463
Ebad El Rahman	Ring Road	102672

7 rows in set (0.00 sec)

```
mysql>
```

1. If you know that the company policy is to pay an annual commission for each employee with specific percent equals 10% of his/her annual salary .Display each employee full name and his annual commission in an ANNUAL COMM column (alias).

```
mysql> select fname, salary*12*0.1 as 'ANNUAL COM' from employee;
+-----+-----+
| fname | ANNUAL COM |
+-----+-----+
| ali   | NULL       |
| mohamed | 43200.0    |
| Ahmed | 1560.0     |
| Hanaa | 960.0      |
| Amr   | 3000.0     |
| Edward | 1800.0     |
| Maged | 1200.0     |
| Mariam | 900.0      |
| Noha  | 1920.0     |
+-----+-----+
9 rows in set (0.00 sec)
```

- 1. Display the employees Id, name who earns more than 1000 LE monthly.

```
mysql> select fname, ssn from employee where salary > 1000;
+-----+-----+
| fname | ssn |
+-----+-----+
| mohamed | 102672 |
| Ahmed | 112233 |
| Amr | 321654 |
| Edward | 512463 |
| Noha | 968574 |
+-----+-----+
5 rows in set (0.00 sec)
```

- 1. Display the employees Id, name who earns more than 10000 LE annually.

```
mysql> select fname, ssn from employee where salary* 12 > 10000;
+-----+-----+
| fname | ssn |
+-----+-----+
| mohamed | 102672 |
| Ahmed | 112233 |
| Amr | 321654 |
| Edward | 512463 |
| Maged | 521634 |
| Noha | 968574 |
+-----+-----+
6 rows in set (0.00 sec)
```

- 1. Display the names and salaries of the female employees

```
mysql> select fname, salary from employee where gender = 'F';
+-----+-----+
| fname | salary |
+-----+-----+
| Hanaa | 800    |
| Mariam | 750    |
| Noha  | 1600   |
+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

1. Display each department id, name which managed by a manager with id equals 968574.

```
mysql> select dname, dnum from department where mgrssn = 968574;
+-----+-----+
| dname | dnum |
+-----+-----+
| DETP IT | 100 |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

1. Display the ids, names and locations of the projects which controlled with department 10.

```
mysql> select * from project;
+-----+-----+-----+-----+-----+
| pname | pnumber | plocation | city | dnum |
+-----+-----+-----+-----+-----+
| AL Solimaniah | 100 | Cairo Alex Road | Alex | 10 |
| AL Rabwah | 200 | 6th of October City | Giza | 10 |
| AL Rawdah | 300 | Zaied City | Giza | 10 |
| AL Rowad | 400 | Cairo Faiyom Road | Giza | 20 |
| AL Rehab | 500 | Nasr City | Cairo | 30 |
| Pitcho american | 600 | Maady | Cairo | 30 |
| Ebad El Rahman | 700 | Ring Road | Cairo | 20 |
+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> select pnumber, pname, plocation from project where dnum = 10;
+-----+-----+-----+
| pnumber | pname | plocation |
+-----+-----+-----+
| 100 | AL Solimaniah | Cairo Alex Road |
| 200 | AL Rabwah | 6th of October City |
| 300 | AL Rawdah | Zaied City |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```