Database Fundementals
Lab2

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):

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	DNumber	MGRSSN	MGRStartdate
DP1	10	223344	1/1/2005
DP2	20	968574	1/3/2006
DP3	30	512463	1/6/2006

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Works for

ESSN	Pno	Hours
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

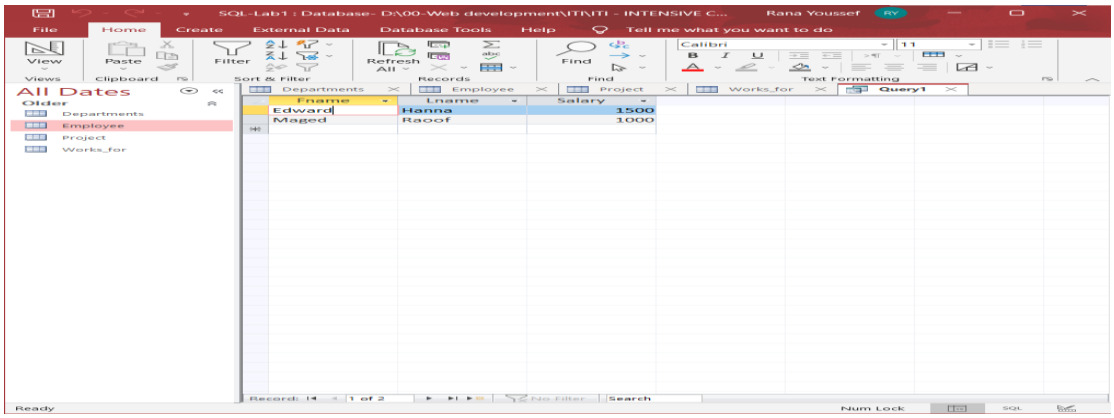
Dependent

ESSN	Dependent_name	Gender	Bdate
123456	Hala Saied Ali	F	18/10/1970
223344	Ahmed Kamel Shawki	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

Queries:

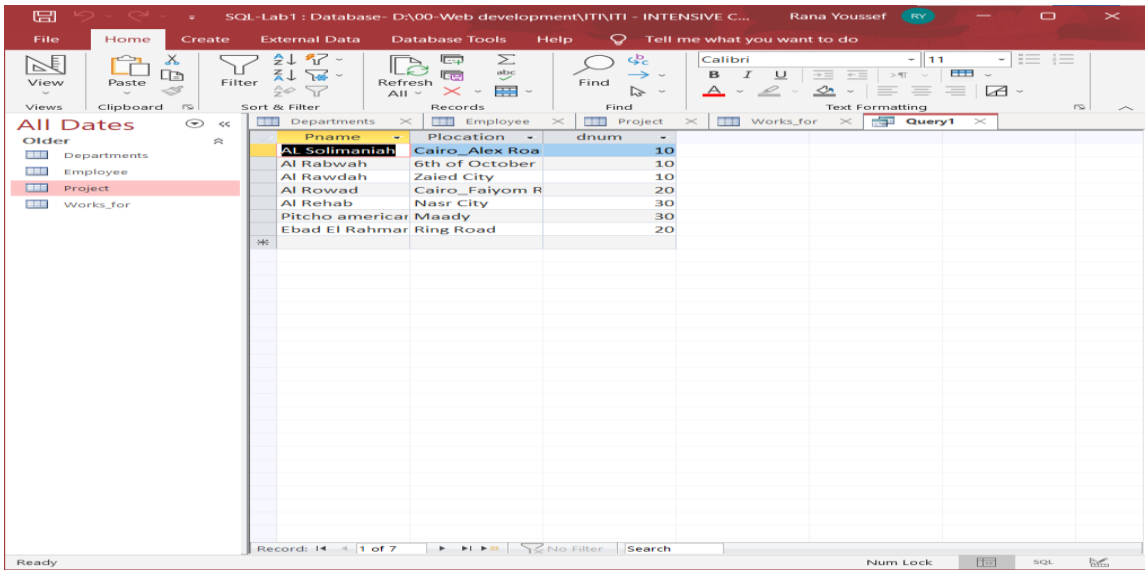
1. Display the employee **First name**, **last name**, **Salary** and **Department number** in **department 30** whose **salary from 1000 to 2000 LE monthly**

```
SELECT Fname,Lname,Salary
FROM Employee
WHERE Dno = 30 and Salary between 1000 and 2000
```



2. Display all the **projects names**, **locations** and the **department number which is managed by it**.

```
SELECT Pname , Plocation , dnum
FROM Project
```



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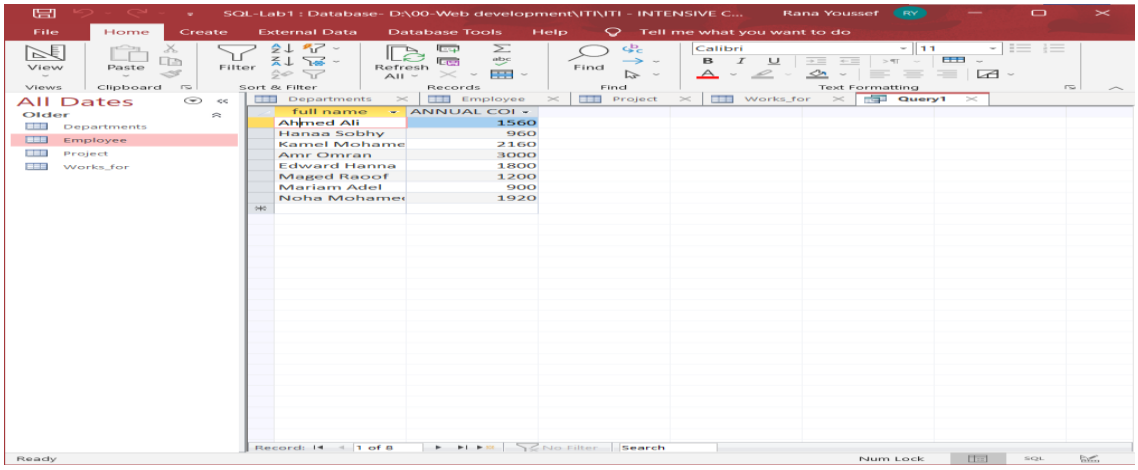
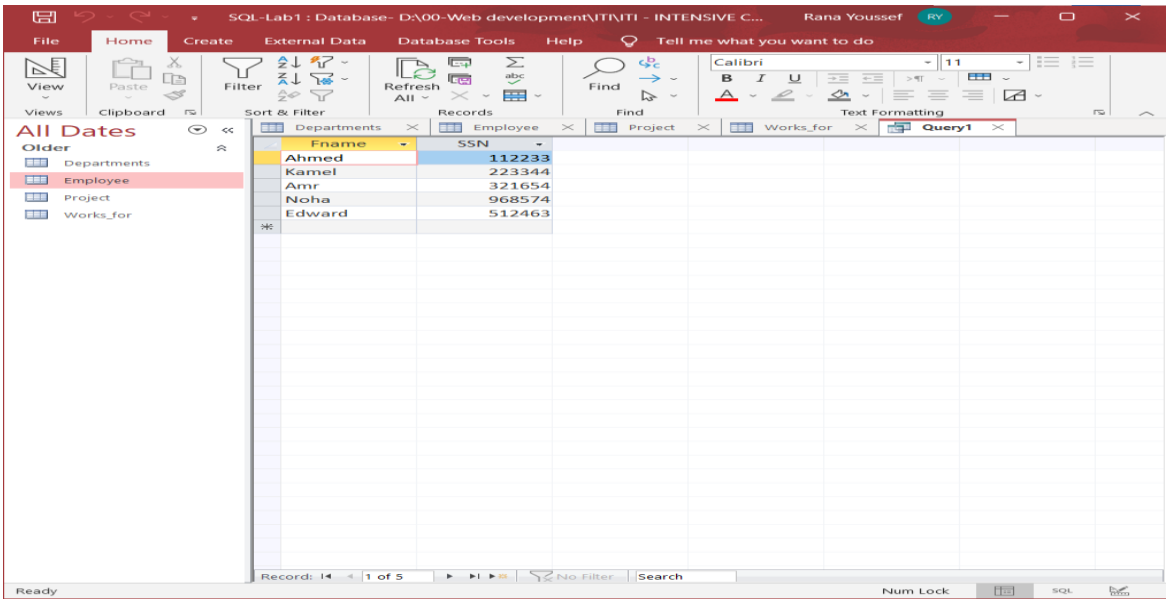
3. If you know that the company policy is to pay an annual commission for each employee which specific percent equals 10% of his/her annual salary .
   Display each **employee full name** and his **annual commission** in an **ANNUAL COMM** column (alias).

```
SELECT Fname + ' ' + Lname as [full name] , Salary * 0.1*12 as [ANNUAL COMM]
FROM Employee
```



4. Display the **employees Id**, **fname** **who earns more than 1000 LE.**

```
SELECT Fname , SSN
FROM Employee
WHERE Salary > 1000
```



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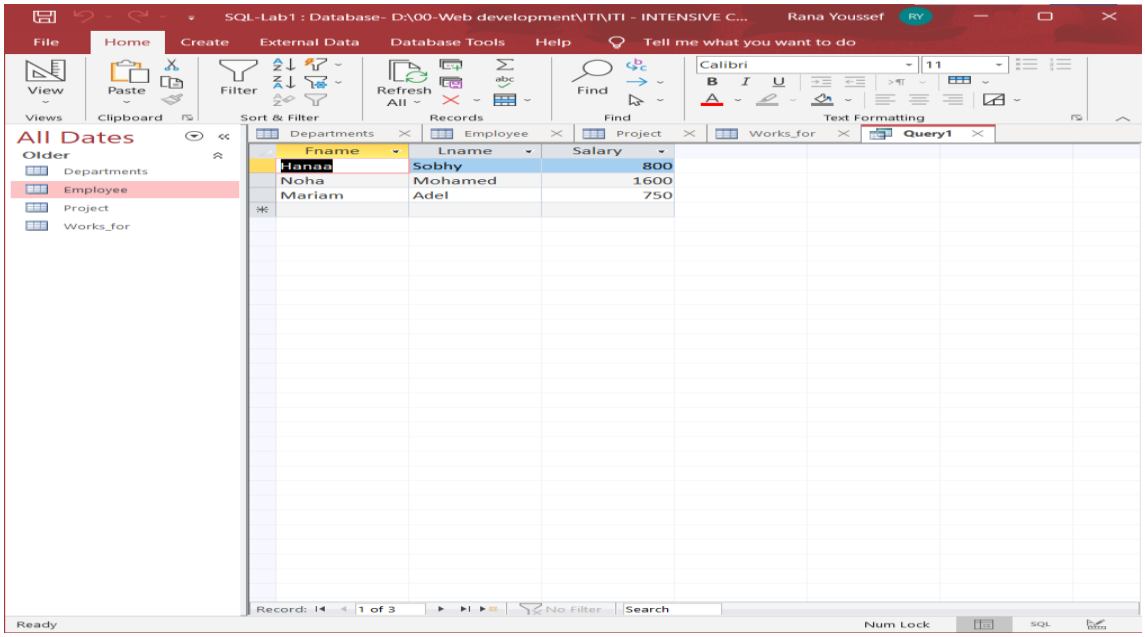
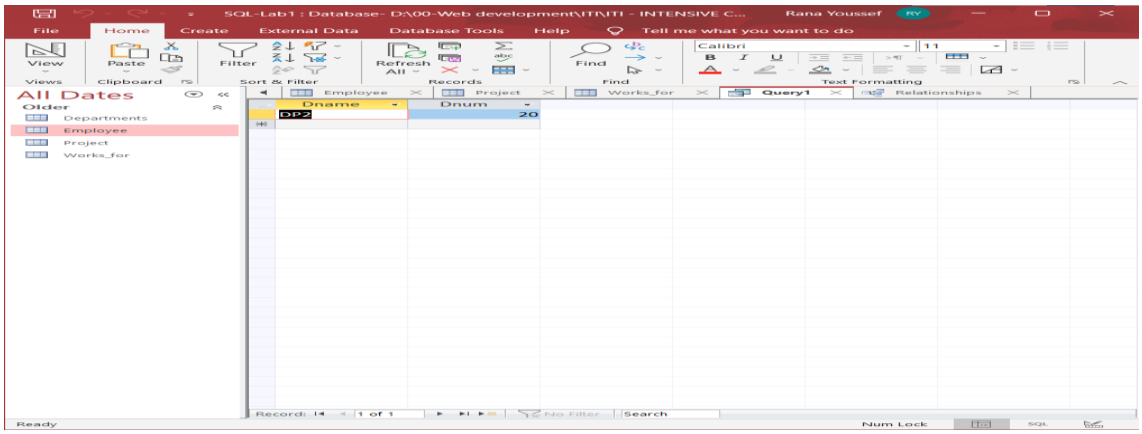
5. Display the **names** and **salaries** of **the female employees**

```
SELECT Fname , Lname , Salary
FROM Employee
WHERE gender = 'F'
```



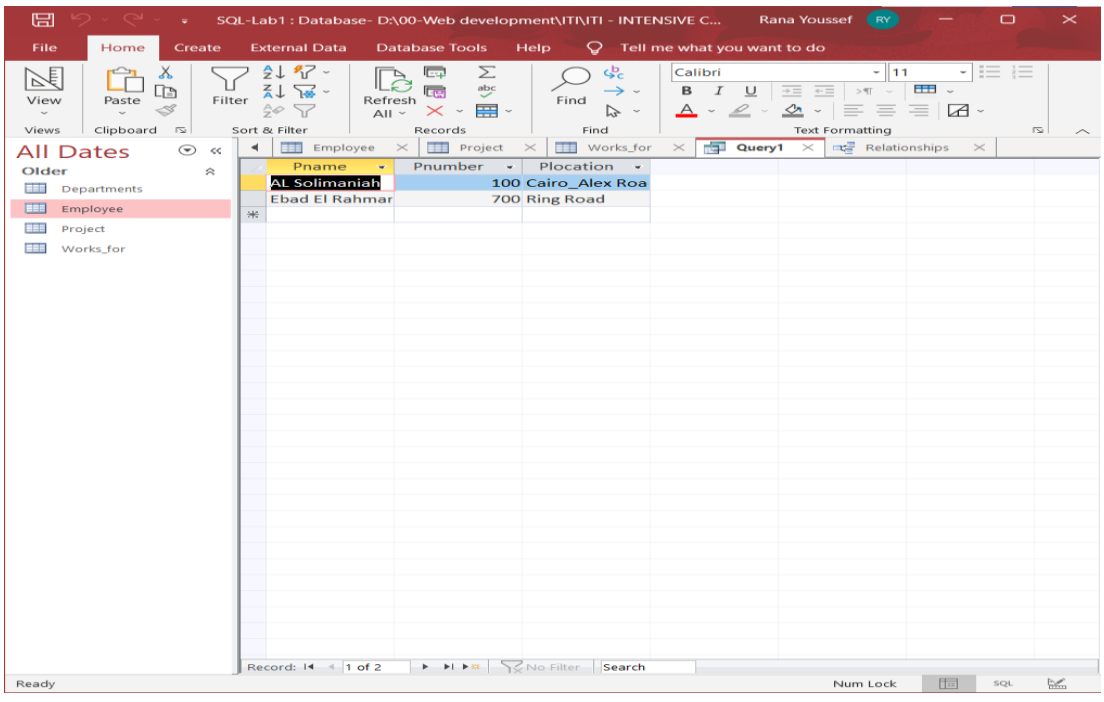
6. Display each **department id**, **name** which **managed by a manager with id equals 968574.**

```
SELECT Dname , Dnum
FROM Departments
WHERE MGRSSN =968574
```



7. Display the **project id**, **name** and **location** of the projects which **controlled with department 10 or 20,**
and location of the projects in Cairo or Alex city

```
SELECT Pname , Pnumber , Plocation
FROM Project
WHERE Dnum IN (10 , 20) and City IN ('Cairo','Alex')
```



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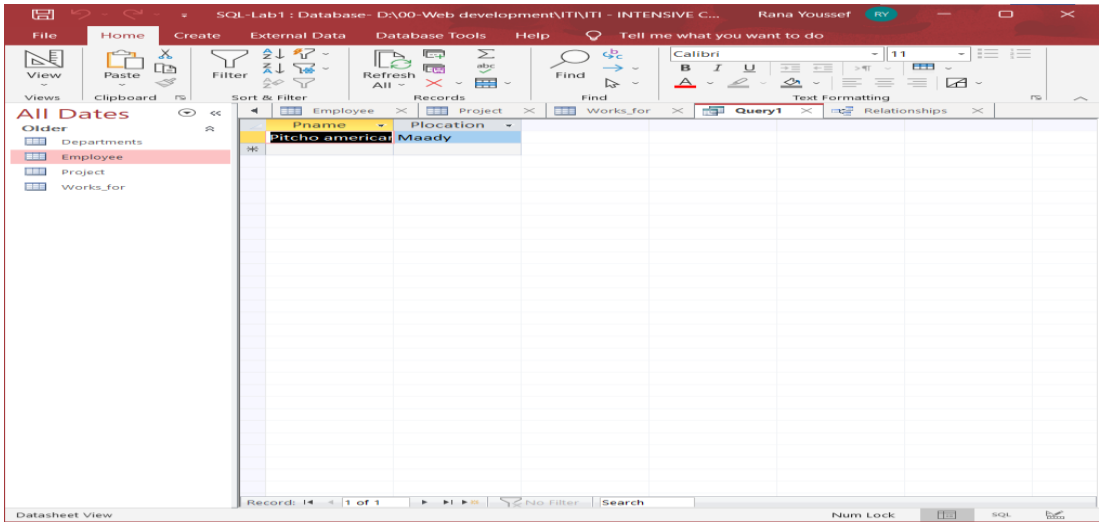
8. Display the **Projects name**, **locations** **of the projects with a project name starts with "p" letter.**

```
SELECT Pname , Plocation
FROM Project
WHERE Pname like  'P*'
```



Data Definition Language:

Create the **dependent** table and create the relationship with **employee** table Then Insert 3 rows only

```
CREATE TABLE dependent
CREATE TABLE Dependent (
EMP_SSN int,
Dependent_name char(50) NOT NULL,
Gender char(50) NOT NULL,
Bdate DATE,
PRIMARY KEY (EMP_SSN , Dependent_name),
CONSTRAINT FK_EmpDependent FOREIGN KEY (EMP_SSN)
REFERENCES Employee(SSN)
);
INSERT INTO Dependent Values (123456,'Hala Saied Ali','F',
'18/10/1970');
```

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INSERT INTO Dependent Values (223344,'Mona Adel Mohamed','F', '25/4/1975');

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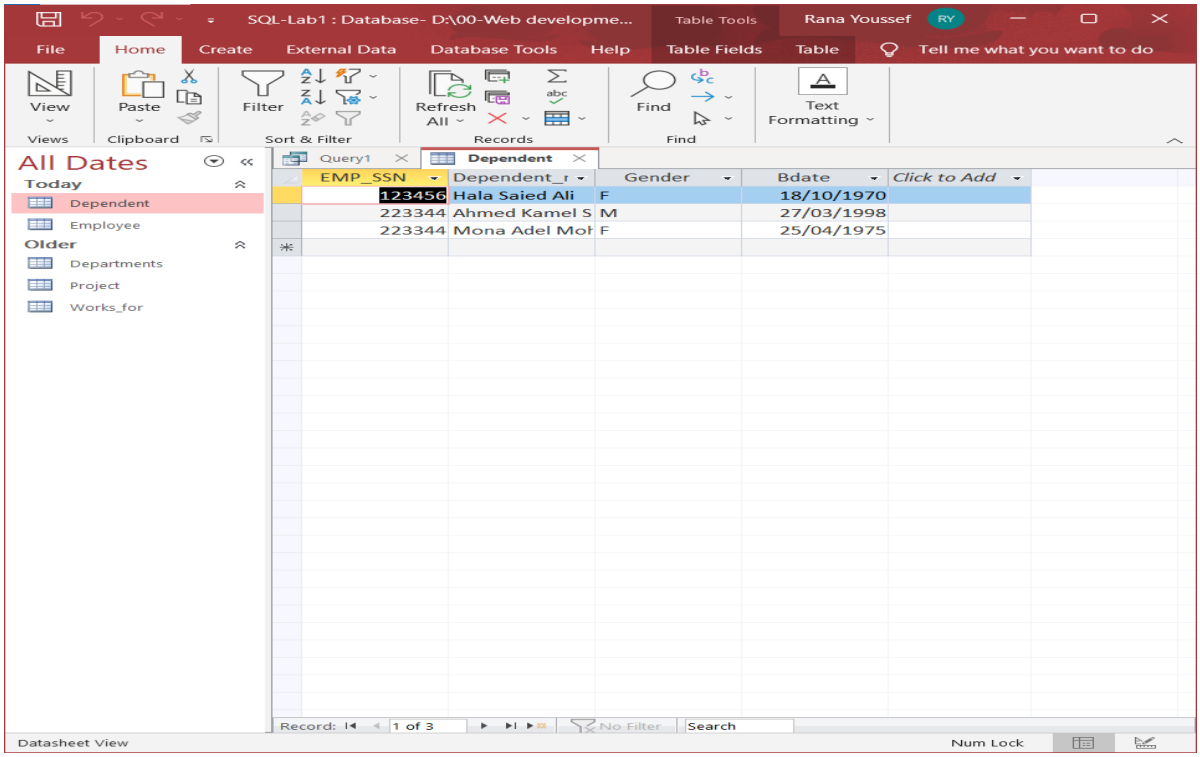


Data Manipulating Language:

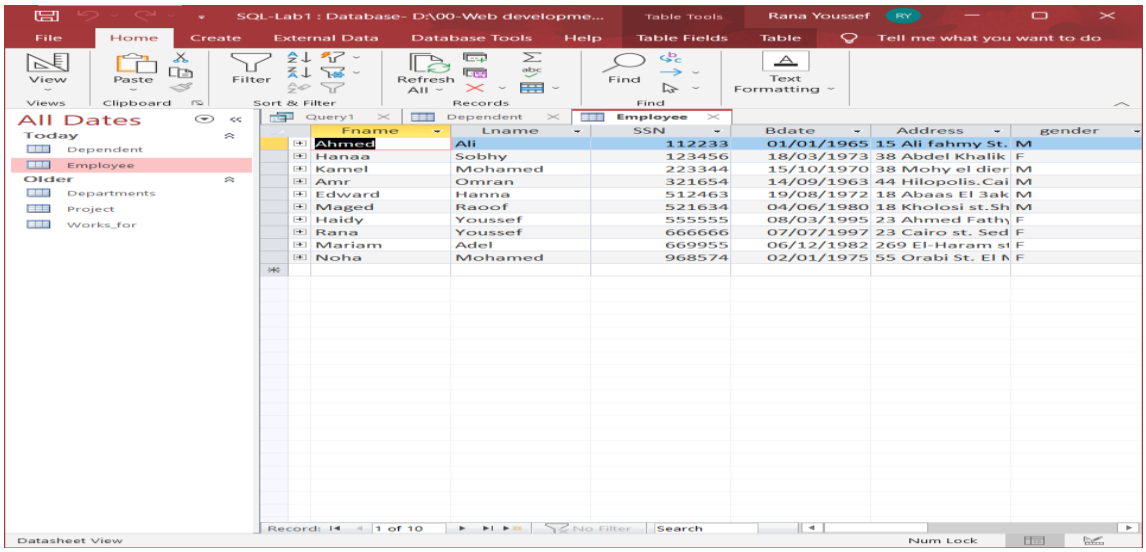
1. Insert new employee with **your personal data**, you will be in **department number 30**, your **SSN = 666666** & **Superssn = 112233**.

```
INSERT INTO employee Values (
'Rana',
'Youssef',
666666,
'07/07/1997',
'23 Cairo st. Sedi Beshr',
'F',
2000,
112233,
30)
```

2. Insert another employee with **personal data your friend** as new employee in **department number 30** , **SSN = 555555**, but **don't enter any value for salary or manager number to him**.

```
INSERT INTO employee (
Fname ,
Lname,
SSN,
Bdate,
Address,
gender,
Dno
)
VALUES (
```

```
'Haidy',
'Youssef',
555555,
'08/03/1995',
'23 Ahmed Fathy st. Gleem',
'F',
30)
```



3. In the **department** table insert new department called **"DEPT IT"** , with **id 100**, **MgrSSN = 112233** as a manager for this department. The **start date for this manager is '08/12/2006'**

```
INSERT INTO Departments VALUES (
'DEPT IT',
100,
112233,
'08/12/2006')
```

4. Do what is required if you know that : **Mrs.Noha Mohamed moved to be the manager of the new department (id = 100)**, and they give her position to your friend

Steps:

a. Your friend will be the manager of **Dept 20** (her previous

department)

b. Update her record in your database to be a manager of **department 100**

c. Update your friend data, add yourself as a supervisor for him (supervised by you)

```
UPDATE Employee
SET Dno = 100
WHERE SSN = 968574

UPDATE Employee
SET Dno = 20
WHERE SSN = 555555

UPDATE Departments
SET MGRSSN = 555555
WHERE Dnum = 20

UPDATE Departments
SET MGRSSN = 968574
WHERE Dnum = 100

UPDATE Department
set MGRSSN = 968574
where Dnum = 100
```

5. Unfortunately the company ended the contract with **Mr.Kamel Mohamed** so **try to delete his data from your database**, in case you need, you can be temporary in his position.

   Upgrade your salary by **20 present** of its last value.

```
UPDATE Employee
SET Dno = 10
WHERE SSN = 666666

UPDATE Departments
SET MGRSSN = 666666
WHERE MGRSSN = 223344

UPDATE Employee
SET Superssn = 666666
WHERE Superssn = 223344

UPDATE  Employee
SET SALARY =
( SELECT Salary*1.2
FROM Employee
WHERE SSN = 223344)
WHERE SSN =666666


DELETE FROM Dependent
WHERE EMP_SSN = 223344


DELETE FROM Works_for
WHERE ESSn = 223344
```

```
DELETE FROM Employee
WHERE SSN = 223344
```

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