Course: *Databases and Data Warehousing*
Instructor: *Prof. Divyakant Agrawal*
TAs: *Saideep, Sriharshitha, Tanu Goyal*

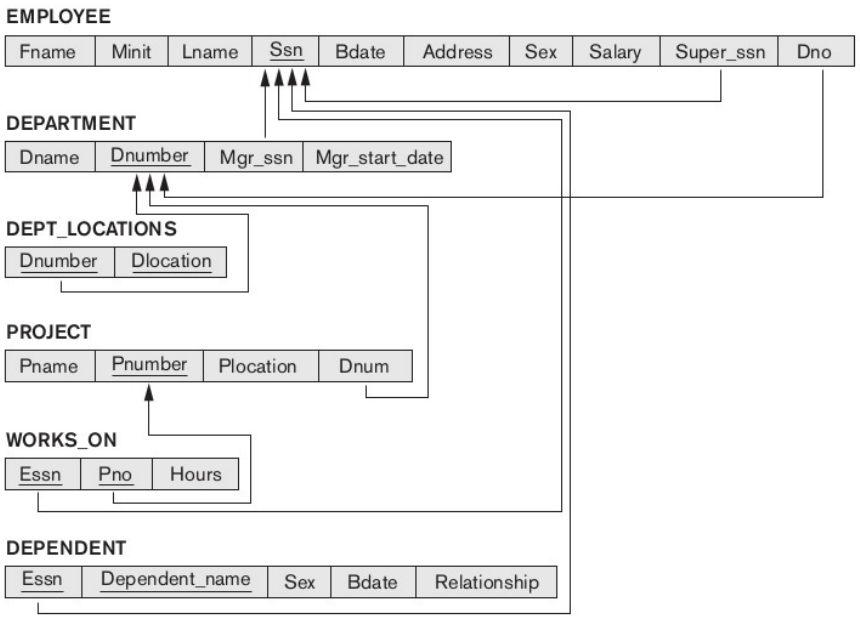
Homework Assignment II

Assigned : *5:45 PM, 6th September* **Deadline** : *11:55 PM, 12th September*

Instructions

- All the DML and DDL queries given are to be written and submitted in a text file.
- All the queries should be executable following the given order. The queries that are not executable will not be awarded any points.
- The ER diagram has to be drawn separately in another file.
- Zip the above two files, name it as **rollNo.zip** and submit.

1. **Implement the following DDL and DML queries using the schema and data shown in the figures below.**



EMPLOYEE

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000	888665555	5
Alicia	J	Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000	987654321	4
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000	888665555	4
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000	987654321	4
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000	NULL	1

DEPARTMENT

Dname	Dnumber	Mgr_ssn	Mgr_start_date
Research	5	333445555	1988-05-22
Administration	4	987654321	1995-01-01
Headquarters	1	888665555	1981-06-19

DEPT_LOCATIONS

Dnumber	Dlocation
1	Houston
4	Stafford
5	Bellaire
5	Sugarland
5	Houston

WORKS_ON

Essn	Pno	Hours
123456789	1	32.5
123456789	2	7.5
666884444	3	40.0
453453453	1	20.0
453453453	2	20.0
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
333445555	20	10.0
999887777	30	30.0
999887777	10	10.0
987987987	10	35.0
987987987	30	5.0
987654321	30	20.0
987654321	20	15.0
888665555	20	NULL

PROJECT

Pname	Pnumber	Plocation	Dnum
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorganization	20	Houston	1
Newbenefits	30	Stafford	4

DEPENDENT

Essn	Dependent_name	Sex	Bdate	Relationship
333445555	Alice	F	1986-04-05	Daughter
333445555	Theodore	M	1983-10-25	Son
333445555	Joy	F	1958-05-03	Spouse
987654321	Abner	M	1942-02-28	Spouse
123456789	Michael	M	1988-01-04	Son
123456789	Alice	F	1988-12-30	Daughter
123456789	Elizabeth	F	1967-05-05	Spouse

ER Diagram(8 Points)

1. Draw an ER diagram for the above given schema.

DDL Queries (16 Points)

1. Create a database **Company** for storing the Tables.
2. Create tables with appropriate key constraints and data types using the schema shown in the figure.
3. Populate the tables with the data shown in the figure.
4. Drop column **Minit** from the table Employee.
5. Add Column **ManagerName** to **Department** table and set values to **NULL**.
6. Update newly created column **ManagerName** of Department **Research** to **'Franklin'**.
7. Truncate the table **DEPT_LOCATIONS** and then Delete the table **DEPT_LOCATIONS**
8. Set the value of **NULL** entries in **hours** column of **WORKS_ON** table to **30.0**

DML Queries (16 Points)

1. Display **Pname** and **Plocation** of all projects.
2. Display **Fname** and **Salary** of all Employees who are born before year 1960.
3. Display **Fname** and **Lname** of all Employees whose **Fname** or **Lname** starts with the letter **'f'**.
4. Display **ESSN** of all employees whose working hours for a day is more than **5.5 hrs**.(Assume the data has weekly working hours and the week has 5 days)
5. Display **Dname** along with the **Fname** and **Lname** of the manager of the corresponding department.
6. Display the **least salary** an employee who works in Department **Research** gets.
7. Display all **Pno** and **Pname** having average working hours of employees more than **20**.
8. Display all the mother-daughter pairs from the Dependent table.