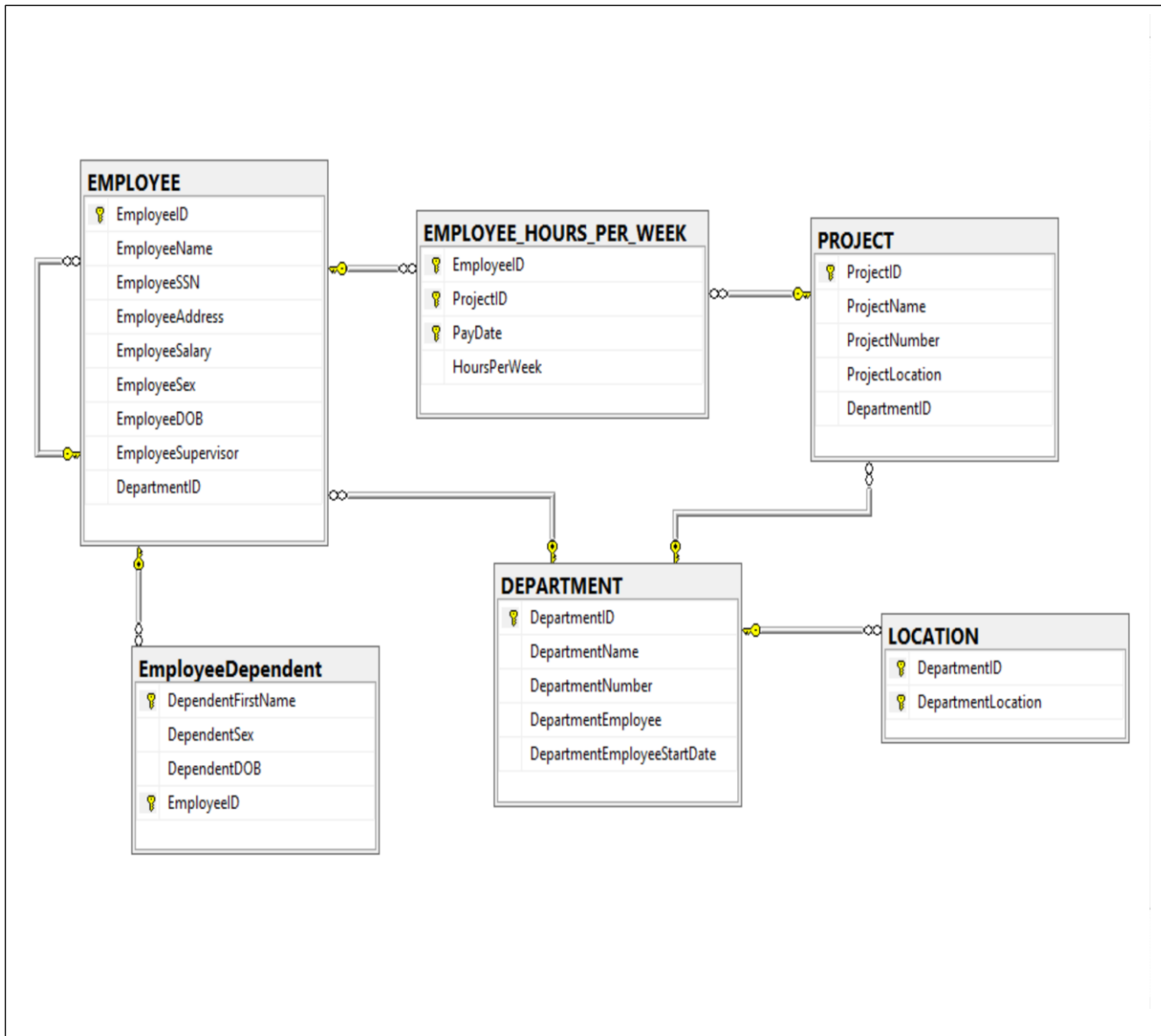


ASSIGNMENT – 5

A.



- **TABLES**

DEPARTMENT

PROJECT

LOCATION

EMPLOYEE

EmployeeDependent

EMPLOYEE_HOURS_PER_WEEK

- **PRIMARY KEYS**

DepartmentID in table DEPARTMENT

ProjectID in table PROJECT

(DepartmentID, DepartmentLocation) in table LOCATION

EmployeeID in table EMPLOYEE

(EmployeeID, ProjectID, PayDate) in table EMPLOYEE_HOURS_PER_WEEK

(DependentFirstName, EmployeeID) in table EmployeeDependent

- **FOREIGN KEYS**

EmployeeSupervisor in table EMPLOYEE


DepartmentID in table LOCATION

EmployeeID and ProjectID in table EMPLOYEE_HOURS_PER_WEEK


EmployeeID in table EmployeeDependent

- **COLUMN PROPERTIES**


1. DEPARTMENT TABLE

	Column Name	Data Type	Allow Nulls
	DepartmentID	int	<input type="checkbox"/>
	DepartmentName	varchar(50)	<input type="checkbox"/>
	DepartmentNumber	int	<input type="checkbox"/>
	DepartmentEmployee	varchar(50)	<input checked="" type="checkbox"/>
	DepartmentEmployeeSta...	date	<input checked="" type="checkbox"/>
			<input type="checkbox"/>



2. PROJECT TABLE

	Column Name	Data Type	Allow Nulls
	ProjectID	int	<input type="checkbox"/>
	ProjectName	varchar(50)	<input type="checkbox"/>
	ProjectNumber	int	<input type="checkbox"/>
	ProjectLocation	varchar(50)	<input type="checkbox"/>
	DepartmentID	int	<input type="checkbox"/>



3. EMPLOYEE TABLE

	Column Name	Data Type	Allow Nulls
	EmployeeID	int	<input type="checkbox"/>
	EmployeeName	varchar(50)	<input type="checkbox"/>
	EmployeeSSN	int	<input type="checkbox"/>
	EmployeeAddress	varchar(255)	<input checked="" type="checkbox"/>
	EmployeeSalary	int	<input checked="" type="checkbox"/>
	EmployeeSex	varchar(25)	<input checked="" type="checkbox"/>
	EmployeeDOB	date	<input checked="" type="checkbox"/>
	EmployeeSupervisor	varchar(50)	<input type="checkbox"/>
	DepartmentID	int	<input type="checkbox"/>




4. LOCATION TABLE

	Column Name	Data Type	Allow Nulls
	DepartmentID	int	<input type="checkbox"/>
	DepartmentLocation	varchar(255)	<input type="checkbox"/>

5. Employee_Dependent

	Column Name	Data Type	Allow Nulls
	DependentFirstName	varchar(50)	<input type="checkbox"/>
	DependentSex	varchar(25)	<input checked="" type="checkbox"/>
	DependentDOB	date	<input checked="" type="checkbox"/>
	EmployeeID	int	<input type="checkbox"/>

6. EMPLOYEE_HOURS_PER_WEEK

	Column Name	Data Type	Allow Nulls
	EmployeeID	int	<input type="checkbox"/>
	ProjectID	int	<input type="checkbox"/>
	PayDate	date	<input type="checkbox"/>
	HoursPerWeek	int	<input type="checkbox"/>

B. WEAK ENTITIES REPRESENTATION

The weak entities are EMPLOYEE_HOURS_PER_WEEK, LOCATION and EmployeeDependent. In the database model, EMPLOYEE_HOURS_PER_WEEK table includes the EmployeeID and ProjectID as the primary keys. EmployeeID and ProjectID are primary keys of table EMPLOYEE and PROJECT respectively.

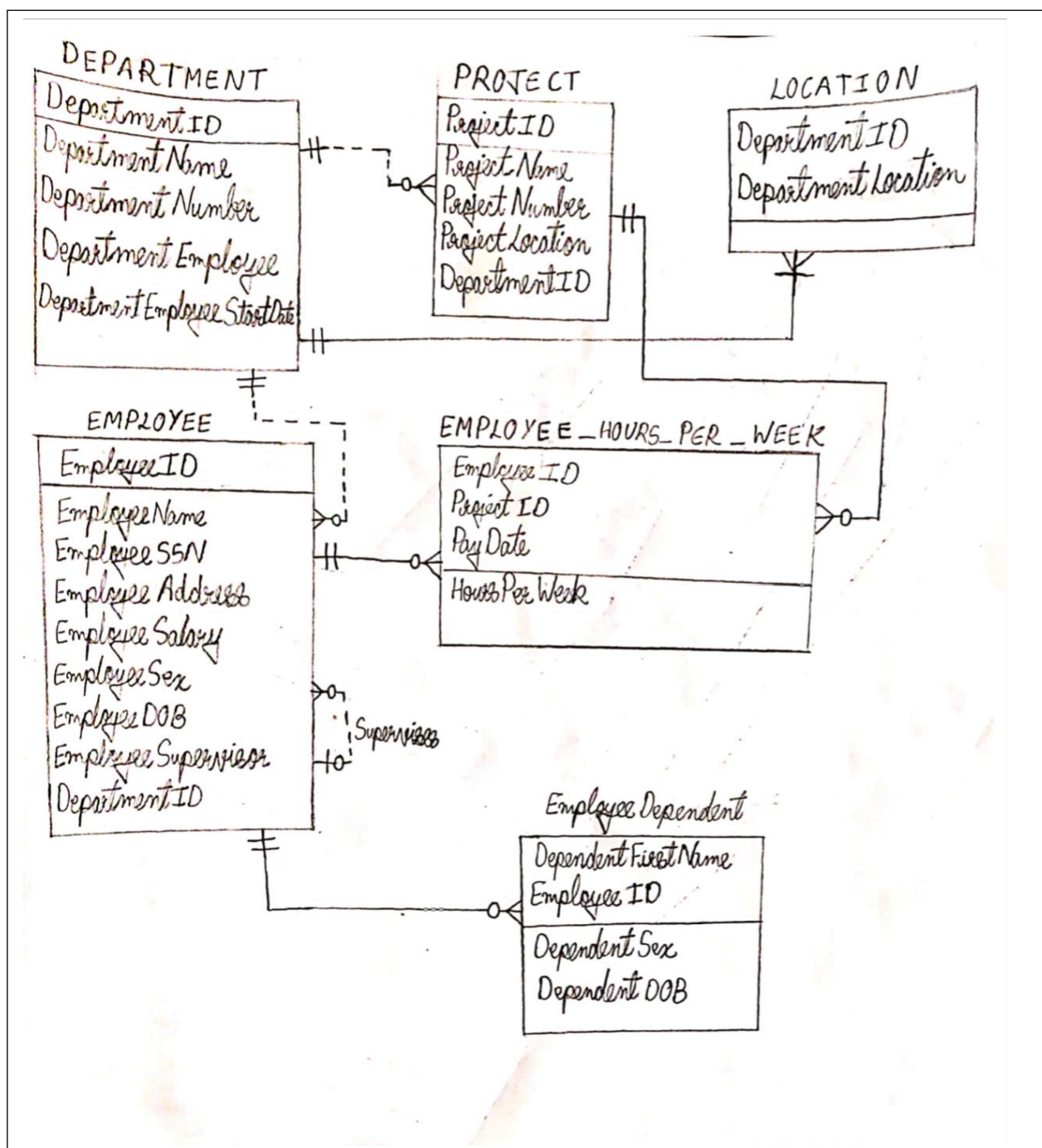
In the database model, LOCATION table has DepartmentID and DepartmentLocation as the primary keys. EmployeeDependent table has DependentFirstname and EmployeeID as primary keys. DepartmentID and EmployeeID and also foreign keys of tables LOCATION and EmployeeDependent respectively. DepartmentID and EmployeeID are primary keys of the table DEPARTMENT and EMPLOYEE respectively.

So, we created Referential Integrity Constraint between tables EMPLOYEE and EMPLOYEE_HOURS_PER_WEEK, DEPARTMENT and LOCATION, EMPLOYEE and EmployeeDependent. That's how we represented weak entities.

C. SUBTYPES AND SUPERTYPES ENTITIES

There are no supertypes and subtypes entities in this database design.

D.



E.

RELATIONSHIP		REFERENTIAL INTEGRITY CONSTRAINT
PARENT	CHILD	
DEPARTMENT	PROJECT	DepartmentID in PROJECT table must exist in DEPARTMENT table.
DEPARTMENT	LOCATION	DepartmentID in LOCATION table must exist in DEPARTMENT table.
DEPARTMENT	EMPLOYEE	DepartmentID in EMPLOYEE table must exist in DEPARTMENT table.
PROJECT	EMPLOYEE_HOURS_PER_WEEK	ProjectID in EMPLOYEE_HOURS_PER_WEEK table must exist in PROJECT table.
EMPLOYEE	EMPLOYEE	EmployeeSupervisor in EMPLOYEE table relates to EmployeeName in EMPLOYEE table.
EMPLOYEE	EmployeeDependent	EmployeeID in EmployeeDependent table must relate to EMPLOYEE table.
EMPLOYEE	EMPLOYEE_HOURS_PER_WEEK	EmployeeID in EMPLOYEE_HOURS_PER_WEEK table must relate to EMPLOYEE table.