

## Case 1

**A big company has decided to store information about its projects and employees in a database. The company has wisely chosen to hire you as a database designer. Prepare an E-R diagram for this Company according to The following Description:**

- The company has a number of employees each employee has SSN, Birth Date, Gender and Name which represented as Fname and Lname.
- The company has a set of departments each department has a set of attributes DName, DNUM (unique) and locations.
- Employees work in several projects each project has Pname, PNumber as an identifier, Location and City.
- Each employee may have a set of dependent; each dependent has Dependent Name (unique), Gender, and Birth Date.  
Note: if the employee left the company no needs to store his dependents info
- For each Department, there is always one employee assigned to manage that Department and each manager has a hiring Date
- Department may have employees but employee must work on Only One department
- Each department may have a set of projects and each project must assigned to one department
- Employees work in several projects and each project has several employees and each employee has a number of working hours in each project
- Each employee has a supervisor

## Case 2

**DEPI has decided to store information about its Students and curriculums in a database. DEPI has wisely chosen to hire you as a database designer. Prepare an E-R diagram for DEPI that describes its activities according to The following Description:**

- depi has a number of students in different departments(tracks), each student has St\_id(unique),studentName(Fname,Lname),St\_age,st\_address
- Each department has dept\_id(unique), dep\_name
- Students takes many Courses, each course has crs\_id, crs\_name, crs\_duration and crs\_Description
- Student has a grade in each course
- Each department contains a set of instructor and each instructor is located in one department, each instructor has ins\_id, ins\_name, ins\_salary, ins\_hourRate, ins\_bouns,ins\_address
- For each Department, there is always one instructor assigned to manage that Department and each manager has a hiring Date
- Instructor may teach many courses and each course may be conducted by many instructors, each instructor has evaluation in each course
- Course is classified under one topic, each topic may have many courses, and each topic has top\_name and top\_id