

# Exercise 1

## 1. Find out the entity type

- Employee
- Department
- project
- Dependent

## 2. Find out the relationships

- Many to one (Employee to department)
- one to one (Employee to department)
- one to many (Department to project) (Employee to department) (Employee to Employee)
- many to many (Employee to project)
- Work for (Binary relationship)
- Manages (Binary relationship)
- Works on (Binary relationship)
- Controls (Binary relationship)
- Dependent of (Weak Relationship)

## 3. Describe the ER Diagram in words

Many Employees work in One Department

Employee has

ssn – primary key

name – composite attributes

fname – simple attribute

minit – simple attribute

lname – simple attribute

Bdate

Address

Salary

Sex

Employee Entity has a recursive relationship

One Employee supervises Many Employee

Department has

Name – Primary Key

Locations – Multivalued Key

Number – Candidate key

Number\_of\_employee – Derived Key (depends on the employees)

One Employee manages One Department

Start Date – Relationship attribute

Many Employees work on Many Projects

Hours – Relationship attribute

Project Entity has

Name – Candidate key

Number – Primary key

Location

Many Dependents Dependent on One Employee

Dependent is a weak entity and has a weak relationship with Employee

Name – Primary key

Sex

Birth date

Relationship

One Department Control Many Projects