

1. Find out the entity type

1. Employee
2. Department
3. Project
4. Dependents-of (**Weak Entity**)
5. Supervision (**Associative Entity**)

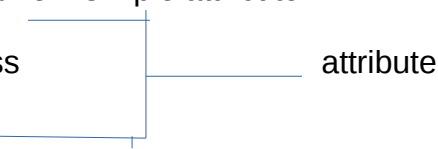
2. Find out the relationships

1. Work for (Binary relationship)[N-1]
2. Manages (Binary relationship)[1-1]
3. Works on (Binary relationship)[N-M]
4. Controls (Binary relationship)[1-N]
5. Dependents-of (**Weak Relationship**)[1-N]
6. Supervision (**Recursive Relationship**)[1-1]

3. Describe the ER Diagram in words

Total Participation

Many Employees work in One Department

1. Employee
 1. ssn – primary key
 2. name – composite attributes
 1. Fname – simple attribute
 2. minit – simple attribute
 3. Lname – simple attribute
 3. Bdate
 4. Address
 5. Salary
 6. Sex
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Partial participation —▶ **Partial participation**

2. Employee Entity has a recursive relationship
 1. One Employee supervises Many Employee
3. Department has
 1. Name – Primary Key
 2. Locations – Multivalued Key
 3. Number – Candidate key
 4. Number_of_employee – Derived Key (depends on the employees)

Partial participation —▶ **Total Participation**

2. One Employee manages One Department
 1. Start Date – Relationship attribute

Total Participation —▶ **Total Participation**

3. Many Employees work on Many Projects

1. Hours – Relationship attribute
2. Project Entity has
 1. Name – Candidate key
 2. Number – Primary key
 3. Location

Partial participation —▶ **Total Participation**

4. Many Dependents Dependent on One Employee

1. Dependent is a weak entity and has a weak relationship with Employee
 1. Name – Primary key
 2. Sex
 3. Birth date
 4. Relationship

5. One Department Control Many Projects

Partial participation —▶ **Total Participation**