DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

23CST201-DATABASE MANAGEMENT SYSTEM

UNIT-I

Introduction

Entity relationship (ER) models:

- Entity relationship (ER) models are based on the real-world entities and their relationships.
- It is easy for the developers to understand the system by simply looking at the ER diagram.
- ER models are normally represented by ER-diagrams.

Components

ER diagram basically having three components:

- **Entities** − It is a real-world thing which can be a person, place, or even a concept.
  Example: Department, Admin, Courses, Teachers, Students, Building, etc are some of the entities of a School Management System.
- **Attributes** − An entity which contains a real-world property called an attribute. Example: The entity employee has the property like employee id, salary, age, etc.
- **Relationship** − Relationship tells how two attributes are related. For Example: Employee works for a department.
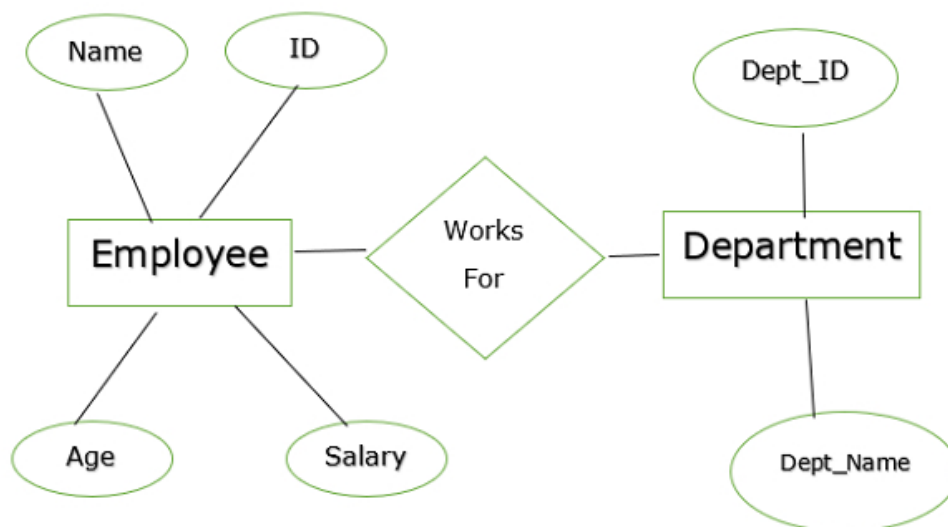
Entities − Employee and Department.

Attributes −

- Employee − Name, id, Age, Salary
- Department − Dept_id, Dept_name

The two entities are connected using the relationship. Here, each employee works for a department.

Features of ER

The features of ER Model are as follows −

- **Graphical Representation is Better Understanding** − It is easy and simple to understand so it can be used by the developers to communicate with the stakeholders.
- **ER Diagram** − ER diagrams are used as a visual tool for representing the model.
- **Database Design** − This model helps the database designers to build the database.

Advantages

The advantages of ER are as follows −

- The ER model is easy to build.
- This model is widely used by database designers for communicating their ideas.
- This model can easily convert to any other model like network model, hierarchical model etc.
- It is integrated with the dominant relational model.

Disadvantages

The disadvantages of ER are as follows −

- There is no industry standard for developing an ER model.
- Information might be lost or hidden in the ER model.
- There is no Data Manipulation Language (DML).
- There is limited relationship representation.