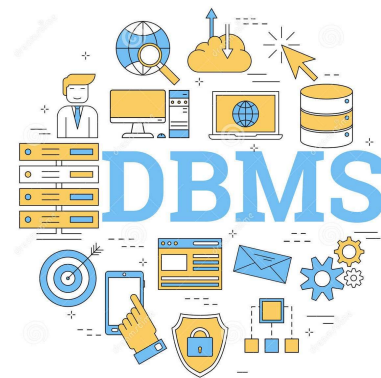




Unit I - Introduction

Purpose of Database System - Views of data - Data models, Database Management system - Three-schema architecture of DBMS, Components of DBMS. **Entity - Relationship Model** - Conceptual data modelling - motivation, entities, entity types, attributes, relationships, relationship types, E/R diagram notations, Examples





Recap

- **Data Modelling** - process of creating a data model for the data to be stored in a database.
- Two Types
 - ER
 - UML

Design Phases

- Initial phase -- characterize fully the data needs of the prospective database users.
- Second phase -- choosing a data model
- Final Phase -- Moving from an abstract data model to the implementation of the database
 - Logical Design - Deciding on the database schema.
 - **Redundancy**
 - **Incompleteness**
 - Physical Design - Deciding on the physical layout of the database

Conceptual data modelling

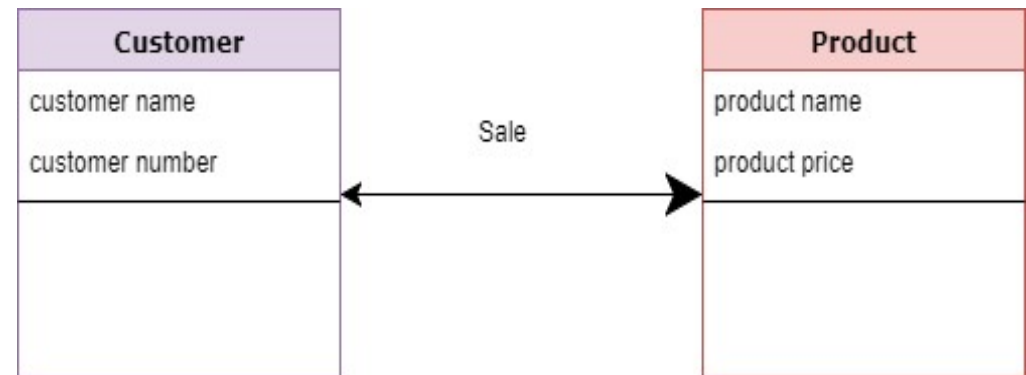
- **Conceptual Data Model**
 - Organized view of database concepts and their relationships.
 - The purpose of creating a conceptual data model is to establish entities, their attributes, and relationships.

Design Approaches

- Entity Relationship Model
 - Models an enterprise as **a collection of *entities and relationships***
 - Entity: a “thing” or “object”
 - Described by a set of *attributes*
 - Relationship: an association among several entities
 - Represented diagrammatically by an ***entity-relationship diagram***

Entity Relationship Model

- Represents the overall logical structure of a database.
- The ER data model employs three basic concepts:
 - **Entity:** A real-world thing
 - **Attribute:** Characteristics or properties of an entity
 - **Relationship:** Dependency or association between two entities



Thank You!