25/07

Task-1(a): Introduction of 'ER' model

Introduction to ER: Model

The Entity-Relationsp Model is a conceptual model for database this model represents the logical structure of a database, including Entities and relationships between them.

- Entity: An object that is stored as data such as student, company.
- Attributes: Properties that describes an Entity such as student ID.
- Relationship: A connection b/w entities such as "a student enrolls in a course".

ER Model

Entity	Attribute	Relationship
Strong Entity	Key Attribute	one to one
weak Entity	composite	one to many
	Multivalued	many to one
	Derival	many to many

- The graphical representation of this model is called an Entity-Relation Diagram.

Er model in Database design Process

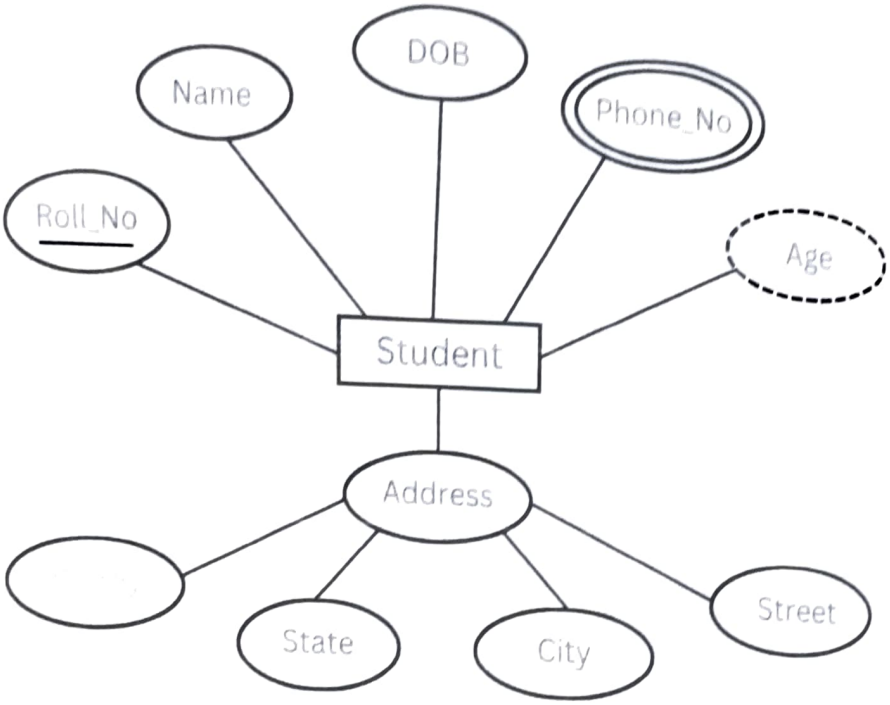
We typically follow the below steps for designing a database for an application

- Gather the requirements by assigning question to the database users.

- create a logical database. This is where ER model plays a role.
- After, this focus on physical database design and external design.

Symbols used in ER model

- Rectangle : Represents Entities in ER
- Ellipses : Represents attributes in ER
- Diamond : Represents relation among Entities
- Lines : Represents attributes to Entities
- Double ellipse : represents multivalued attributes
- Double rectangle : Represents weak entities, which depend on other entities.


DOB
Name
Phone_No
Roll_No
Age
Student
Address
Street
State
City

What is an Entity?

It represents a real world objects concept about which data is stored in a database.

Examples of Entity:

- Real - world objects: Person, car etc.
- Concepts: course, Events etc.
- Things: Product, Device etc.

1. Strong Entity

It is a type of Entity that has a key attribute that can uniquely identify each instance of entity. A strong entity does not depend on any other entity in the schema for its identification. It is represented by a rectangle in a ER diagram.

2. Weak Entity

It cannot be uniquely identified by the own attributes alone. it depends on a strong entity to be identified. A weak entity are represented by a double rectangle.

Ex: A company may store the information of depends of an Employee but the depends can't exist without the employee will be identifying Entity type for dependent.

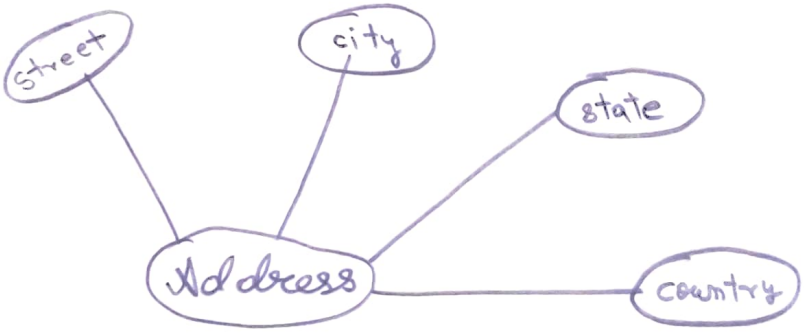
Types of attributes

1. Key attributes

The attributes which uniquely identities each entity in the entity set is called key attributes

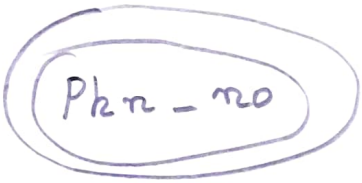
2. Composite attributes

An attributes compound of many other attributes is called a composite attributes. for ex, the address attributes of the student Entity type consists of street, city and country.



3. Multivalued Attributes

An attributes consisting of more than one value for a given Entity, Ex, phn_no can be more than one for Given student.

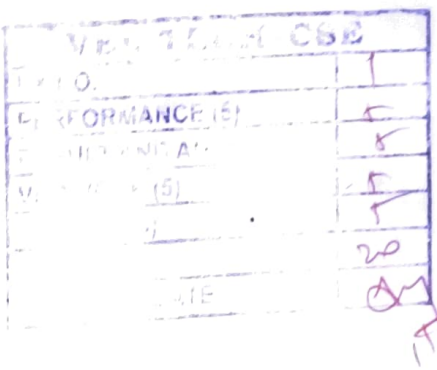


4. Derived Attributes

An attributes that can be used derived from other attributes of the Entity type is known as derived attributes. Eg: Age

Result:

Thus, the E-R Diagram has been implemented success fully



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