

# Task-1 (a) Introduction of 'ER' Model 25/7/25

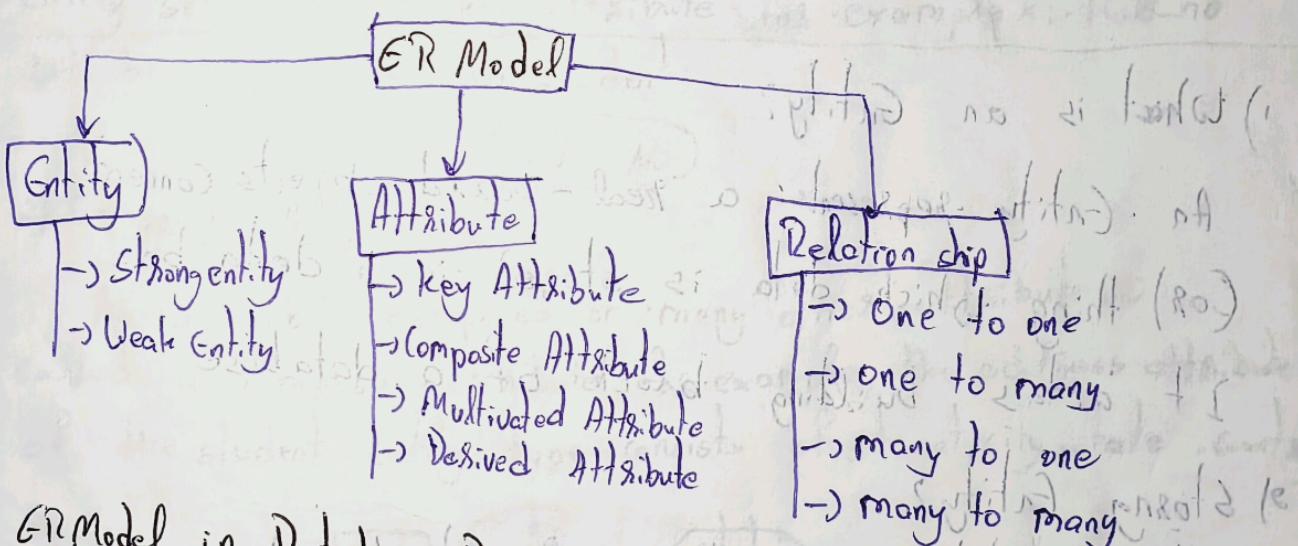
## Introduction to ER Model

The entity-relationship model (ER Model) is a conceptual model for designing a database. This model represents the logical structures of a database, including the entities - their attributes and relationships between them.

Entity:- An object that is stored as data such as student course (or) company.

Attribute:- Properties that describes an entity such as student ID, course name (or) Employee Email.

Relationship:- A connection b/w entities such as a student enrolls in a course



## ER Model in Database Design process

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

- Gather the requirements by asking questions to the database users
- Create a logical (or) Conceptual design of the database this is where ER model plays a role.
- After this, focus on physical Database design and external design.

Rectangle		Entities in ER model
GL-Ellipse		Attributes in ER model
Diamond		Relationship Among Entities
Line		Attribute to Entities
Double Ellipse		Multivalued Attributes
Double Rectangle		Weak Entity

1) What is an Entity?

An Entity represents a real-world objects concept.

(or) thing which data is stored in a database.

It acts as building block of a database.

2) Strong Entity?

A strong Entity is a type of Entity that has a key attribute that can uniquely identify each instance of the entity. A strong entity. It has primary key.

3) Weak entity?

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

## Symbols used in ER Model:-

Rectangles :- It represents entity in ER model

Ellipses :- It represents attributes in ER model

Diamond :- It represents relationship among entities

lines :- Represented Attributes to entities & entity sets

Double ellipse :- Represents multi-valued attributes.

Double rectangle :- Represents weak entities & which depend on other entities for identification.

## Types of Attributes:-

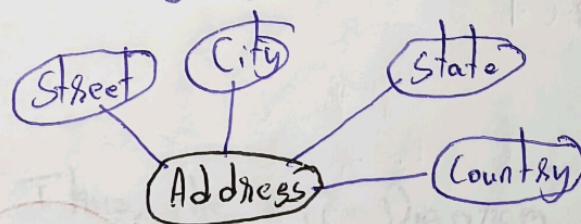
### 1) key Attribute :-

The attribute which uniquely identifies each entity in the entity set is called key attribute. For example:- Roll-no will be unique for each student.

(Roll-No)

### 2) Composite Attribute :-

An attribute composed of many other attributes is called a composite attribute. For example, the address attribute of the student entity type consists of street, city, state, country.

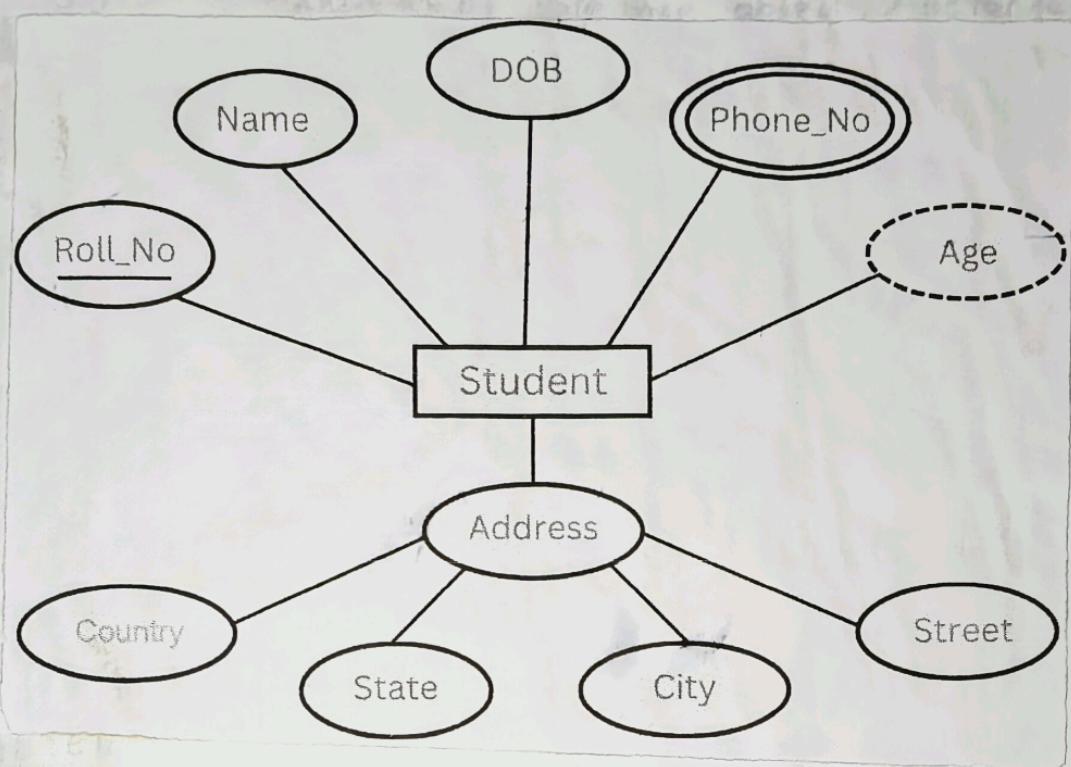


### 3) Multi-valued Attribute :-

An attribute consisting of more than one value for a given entity. For example, phone-no.

(Phone-no)

# Task - I(B) Using Creating tool



Result:- Thus, the ER-Diagram has been implemented successfully.

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EX NO:	16
PERFORMANCE (5)	16
RESULT AND ANALYSIS (5)	8
IVA VOCE (5)	8
RECORD (5)	5
TOTAL (20)	29
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