# E-R MODEL :

**E-R** model stands for **Entity-Relationship model,** Allows us to describe the data involved in real world enterprise in items of **Entity** and their relationship are widely used to devlop initial databases design in this **E-R Model** overall logical structure of a database can be expressed graphically by **E-R Diagrams.**

E-R Diagrams build up with a collection of basic objects called **Entities and Relationships** between Entities.

The components of E-R Diagrams are follows

1. Entity
2. Attributes
3. Entity Set
4. Relationship
5. Relationship Set

## **Entities :**

Entities are real world objects or things that describes from all other objects.

Example:

Moon ,Car ,Human ,Etc. . .

Entities have a set of properties and the values from setup properties may unique.

Entities are denoted by

Entities are divided into 2 types

1. Strong Entities
2. Weak Entities
   1. **Strong Entities :**

strong Entities are exists independently of other entities

Example : Star , Sun , etc . . .

Strong Entities are denoted by Strong bordered rectangle

* 1. **Weak Entities :**

Weak Entities are depends upon the other entities

Example : Moon (depends on sun )

Weak Entities are denoted by double lined bordered rectangle :

## Attributes :

Attribute is a data element that describes the Entitie

or

Attribute is property of an entity

Example : Student id , Name , Course ,Etc . . .

Attributes are denoted by

For each attribute there is a set of permitted value called domain of that attribute.

Example : The domain of attribute **Student,** “Name” might be set of all text string of certain length.

Attributes are divided into 7 types :

1. Simple Attributes
2. Composite Attributes
3. Single Attributes
4. Multi value Attributes
5. Stored Attributes
6. Derived Attributes
7. Descriptive Attributes.
8. **Simple Attributes:**

Simple Attributes can’t be further divided into sub parts are known as simple attributes.

Simple Attributes also called as **atomic attributes.**

1. **Composite Attributes:**

Composite Attributes can be divided into sub parts are known as composite attributes .

These sub chords represents more basic attributes with independent meaning of their own

1. **Single Attributes:**
2. **Multi Value Attributes:**
3. **Stored Attributes:**
4. **Derived Attributes:**
5. **Descriptive Attributes:**