



**SNS COLLEGE OF TECHNOLOGY, COIMBATORE-35**  
**(AN AUTONOMOUS INSTITUTION)**



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

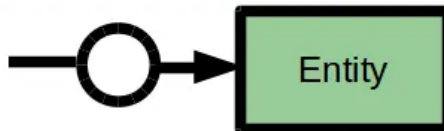
**19CST202-DATABASE MANAGEMENT SYSTEM**

**UNIT-I**

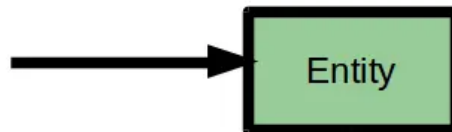
**Introduction**

**ER Notation**

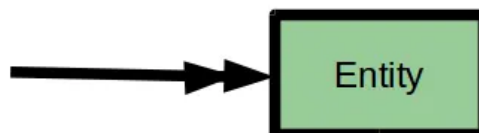
Zero or one  
relationship



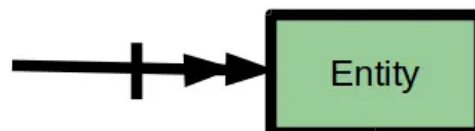
One and only  
one  
relationship



Zero or many  
relationship

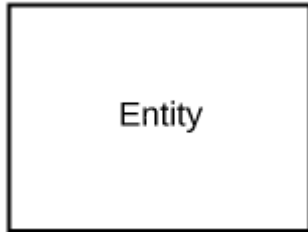


One or many  
relationship



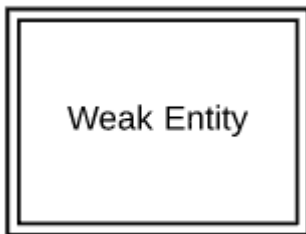
- **Zero or one relationship** – a single-headed arrow, with an open circle on the line.
- **One relationship** – A straight line with one arrowhead
- **Zero or many relationships** – Two arrowheads, one sitting just behind the other, and a straight line

- **One or many relationships** – Two arrowheads, like above, with a short, perpendicular line.



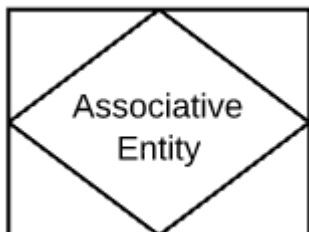
Strong entity

These shapes are independent from other entities, and are often called parent entities, since they will often have weak entities that depend on them. They will also have a primary key, distinguishing each occurrence of the entity.



Weak entity

Weak entities depend on some other entity type. They don't have primary keys, and have no meaning in the diagram without their parent entity.

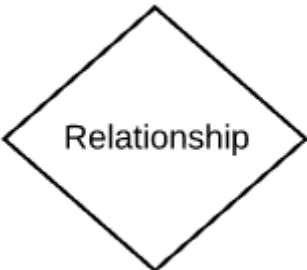



Associative entity

Associative entities relate the instances of several entity types. They also contain attributes specific to the relationship between those entity instances.

## ERD relationship symbols

Within entity-relationship diagrams, relationships are used to

Relationship Symbol	Name	Description
	Relationship	Relationships are associations between or among entities.
	Weak relationship	Weak Relationships are connections between a weak entity and its owner.

document the interaction between two entities. Relationships are usually verbs such as assign, associate, or track and provide useful information that could not be discerned with just the entity types.

### **ERD attribute symbols**

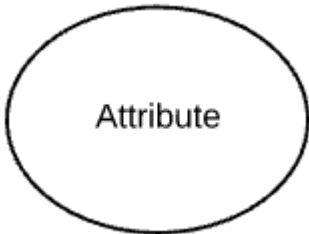
ERD attributes are characteristics of the entity that help users to better understand the database. Attributes are included to include details of the various entities that are highlighted in a conceptual ER diagram.

Attribute Symbol

Name

Description

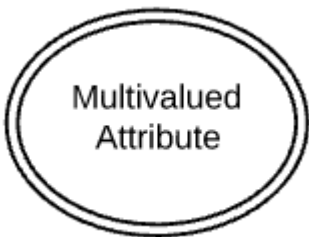
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Attribute

Attribute

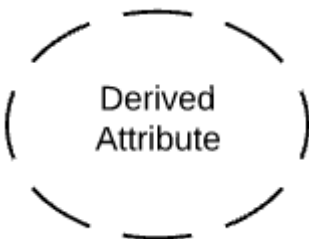
Attributes are characteristics of an entity, a many-to-many relationship, or a one-to-one relationship.



Multivalued  
Attribute

Multivalued  
attribute

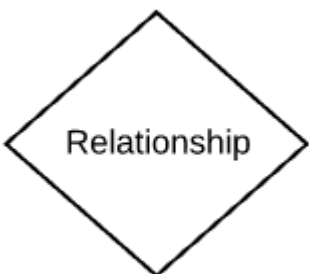
Multivalued attributes are those that are can take on more than one value.



Derived  
Attribute

Derived  
attribute

Derived attributes are attributes whose value can be calculated from related attribute values.



Relationship

Relationship

Relationships are associations between or among entities.