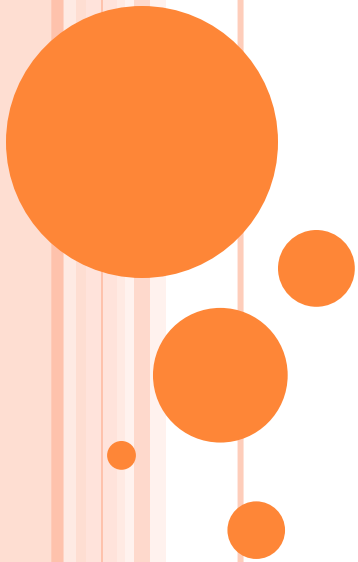


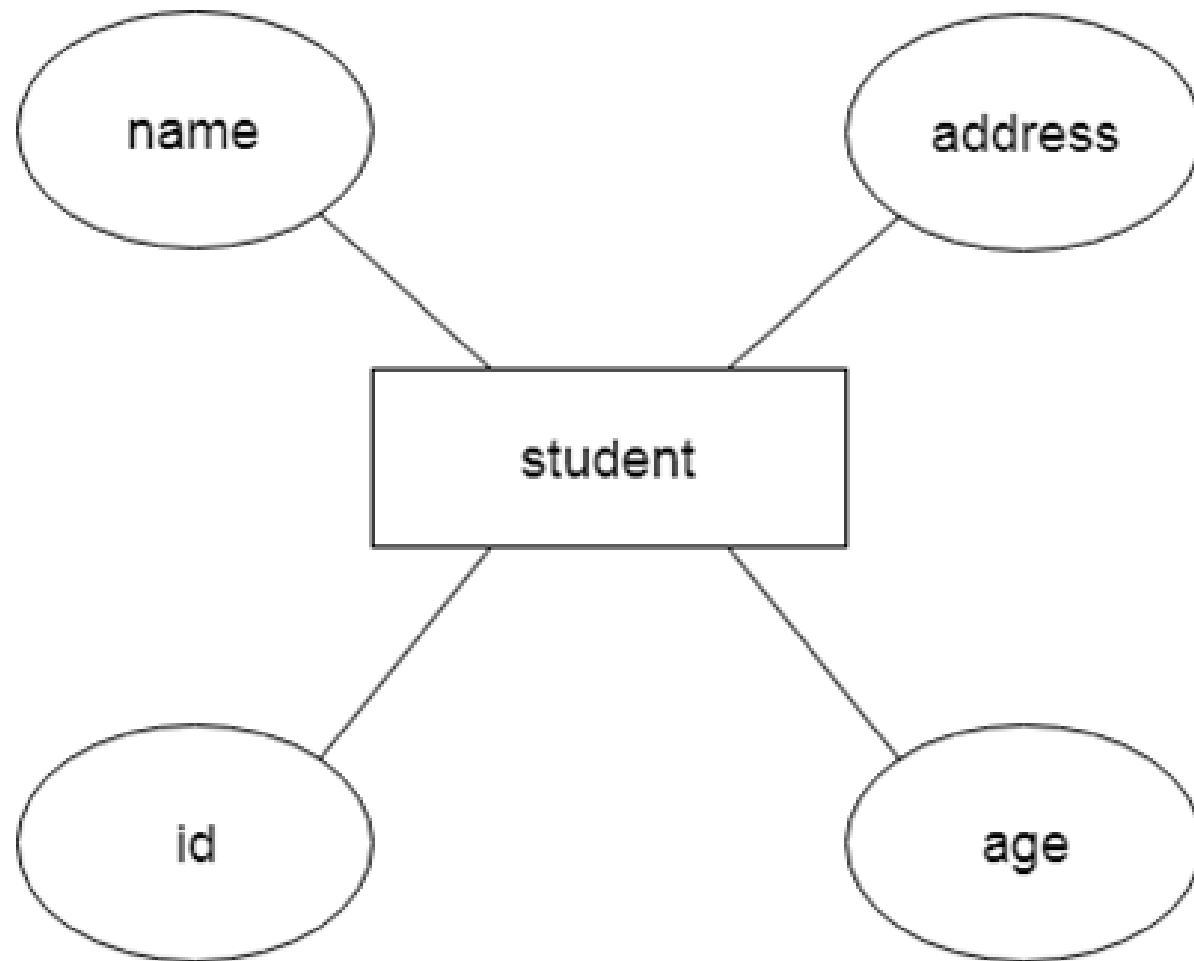
ER MODEL



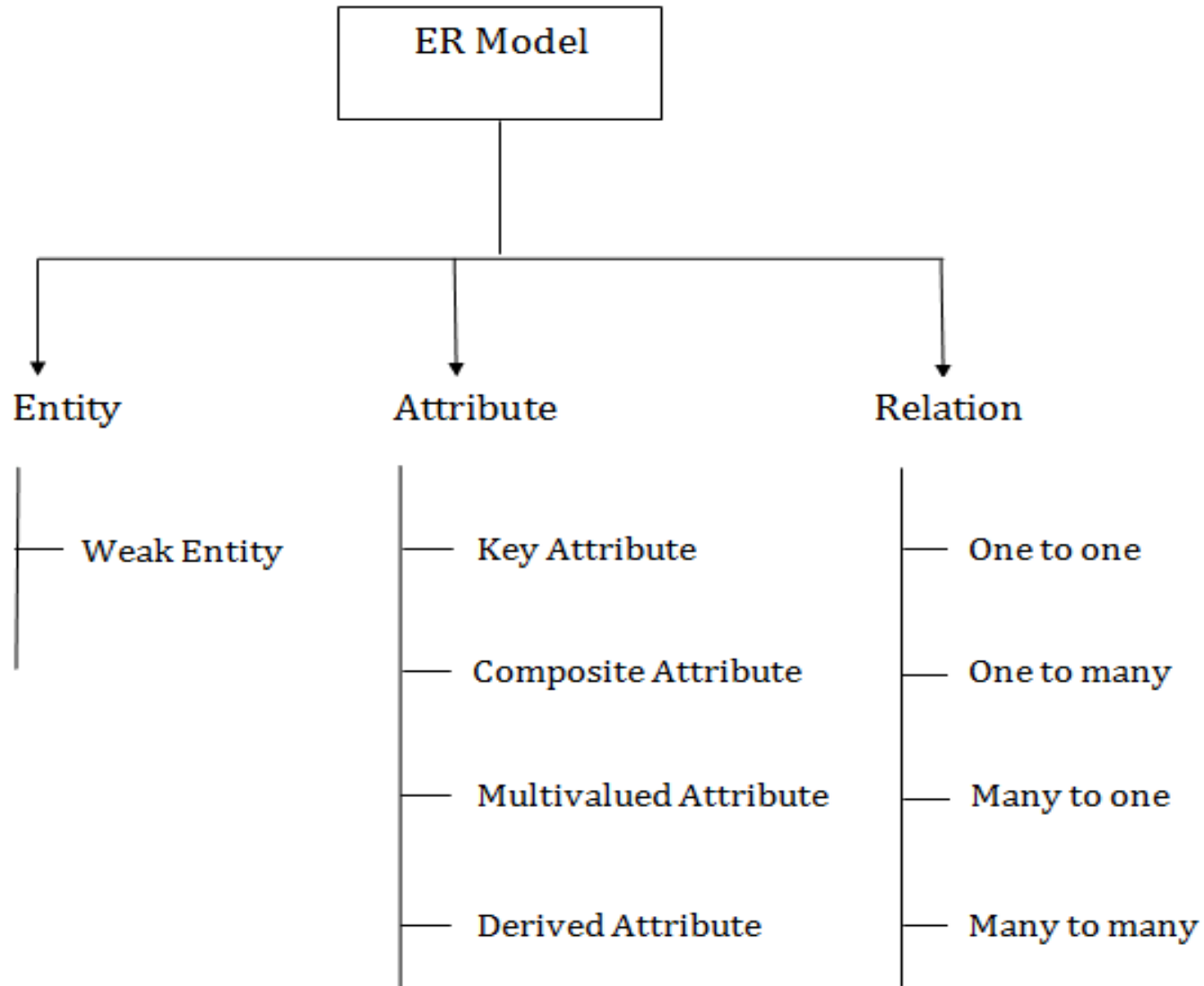
ER MODEL

- ❑ ER model stands for an Entity-Relationship model. It is a high-level data model. This model is used to define the data elements and relationship for a specified system.
- ❑ It develops a conceptual design for the database. It also develops a very simple and easy to design view of data.
- ❑ In ER modeling, the database structure is portrayed as a diagram called an entity-relationship diagram.



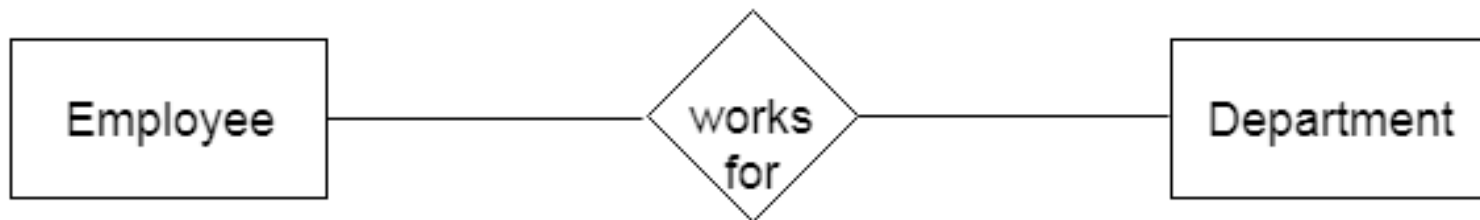


COMPONENT OF ER DIAGRAM



➤ ENTITY:

- ❑ An entity may be any object, class, person or place. In the ER diagram, an entity can be represented as rectangles.
- ❑ Consider an organization as an example- manager, product, employee, department etc. can be taken as an entity.

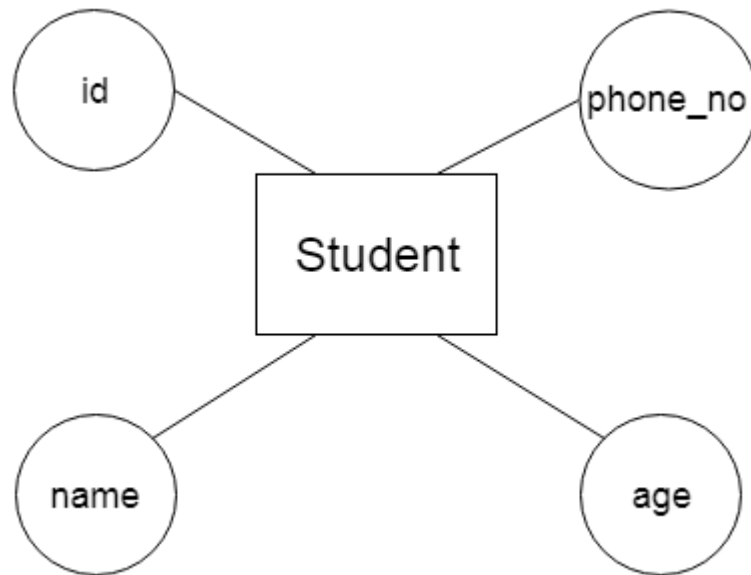


2. ATTRIBUTE

The attribute is used to describe the property of an entity.

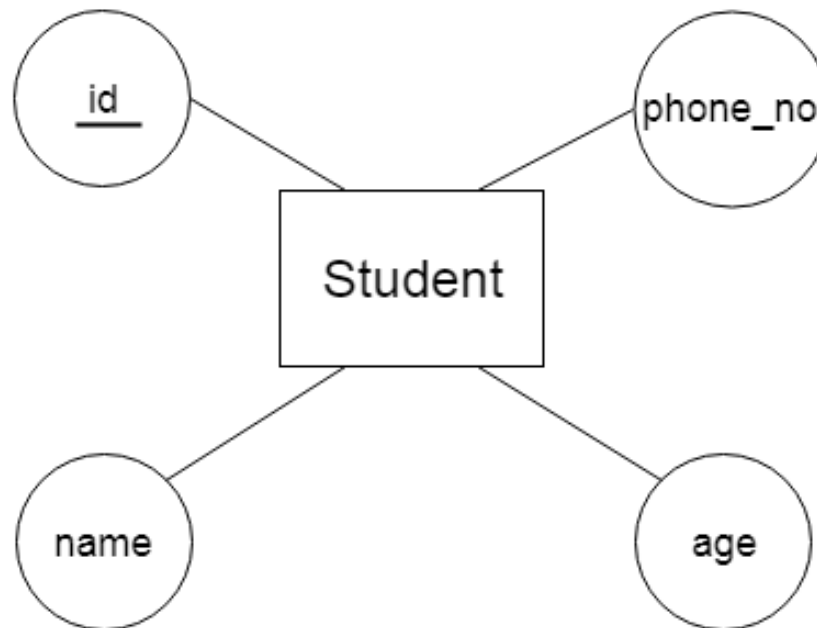
Eclipse is used to represent an attribute.

For example, id, age, contact number, name, etc. can be attributes of a student.



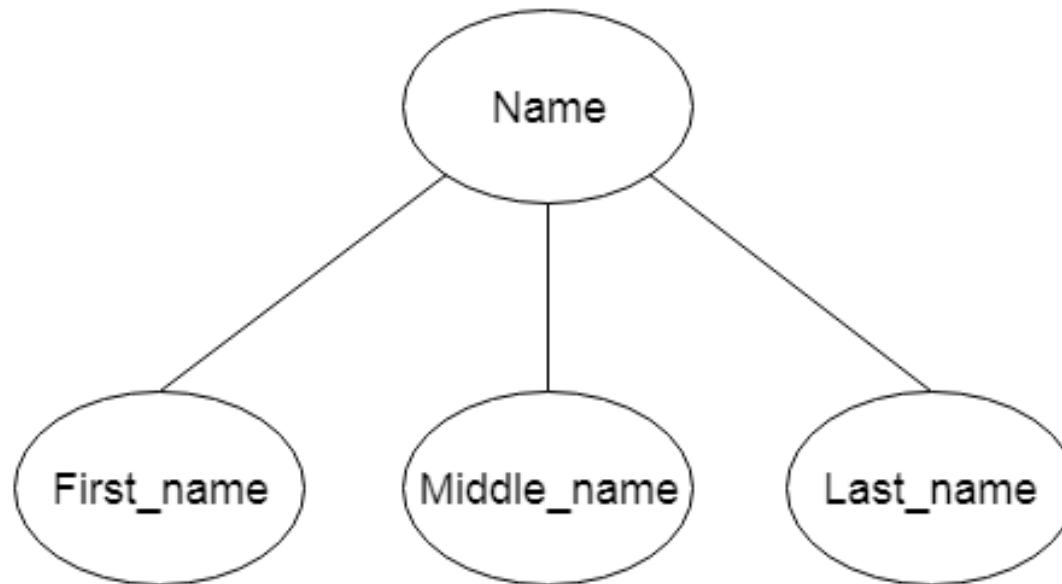
❑ KEY ATTRIBUTE

The key attribute is used to represent the main characteristics of an entity. It represents a primary key. The key attribute is represented by an ellipse with the text underlined.



❑ COMPOSITE ATTRIBUTE

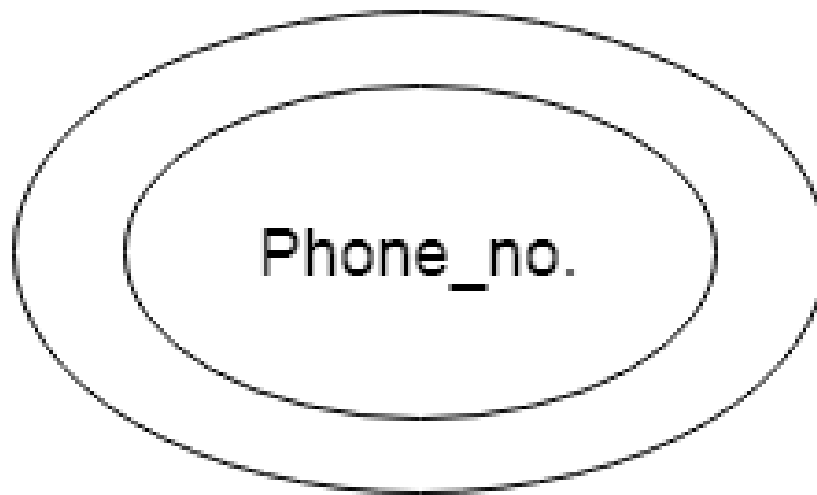
An attribute that composed of many other attributes is known as a composite attribute. The composite attribute is represented by an ellipse, and those ellipses are connected with an ellipse.



❑ MULTIVALUED ATTRIBUTE

An attribute can have more than one value. These attributes are known as a multivalued attribute. The double oval is used to represent multivalued attribute.

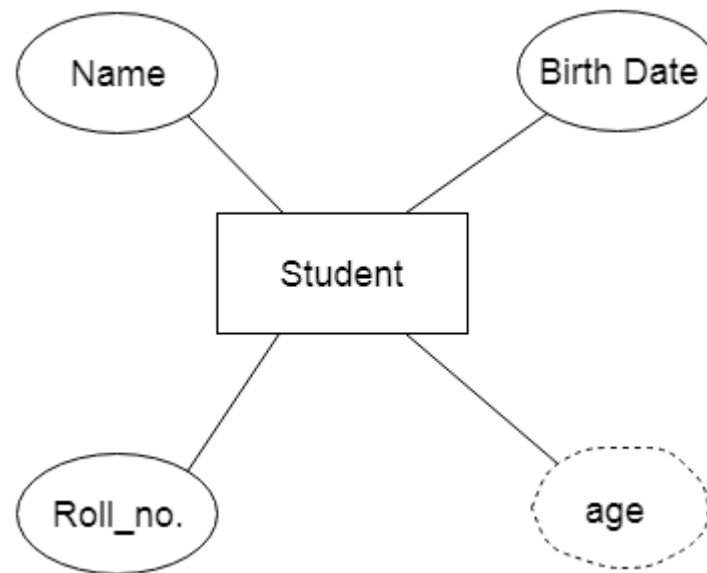
For example, a student can have more than one phone number.



❑ DERIVED ATTRIBUTE

An attribute that can be derived from other attribute is known as a derived attribute. It can be represented by a dashed ellipse.

For example, A person's age changes over time and can be derived from another attribute like Date of birth.



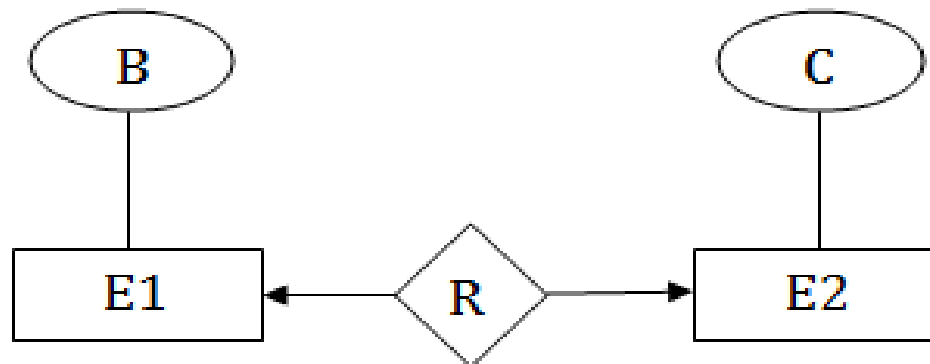
MAPPING CONSTRAINTS

- ❑ A mapping constraint is a data constraint that expresses the number of entities to which another entity can be related via a relationship set.
- ❑ It is most useful in describing the relationship sets that involve more than two entity sets.
- ❑ For binary relationship set R on an entity set A and B , there are four possible mapping cardinalities. These are as follows:
 - i. One to one (1:1)
 - ii. One to many (1:M)
 - iii. Many to one (M:1)
 - iv. Many to many (M:M)



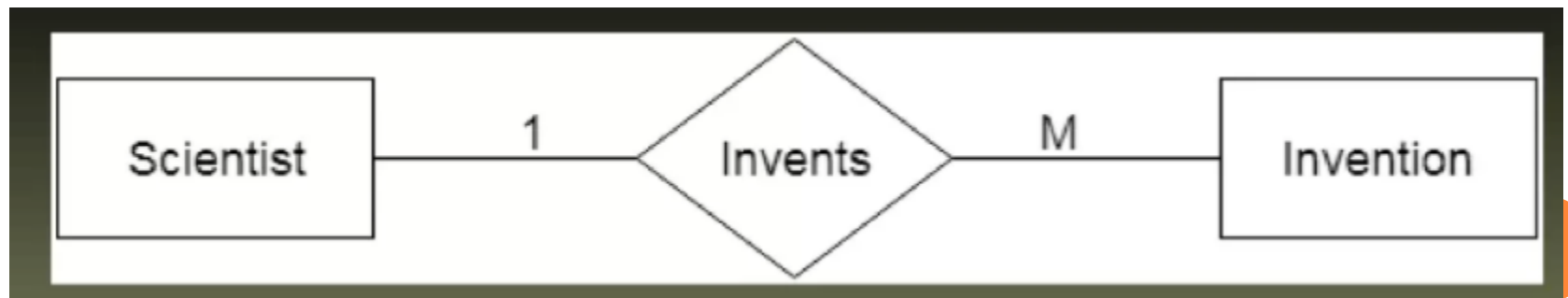
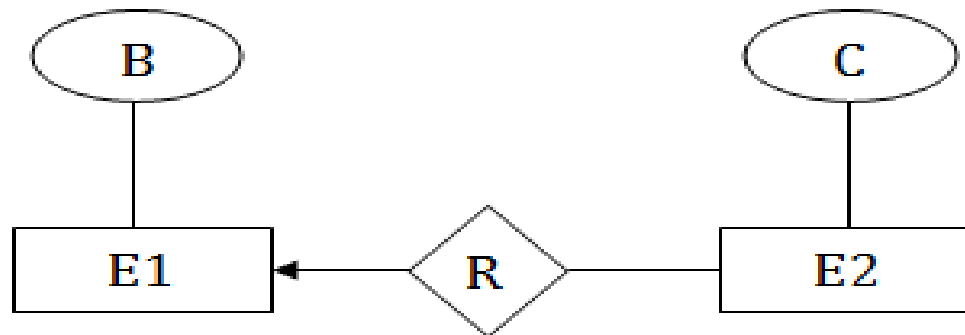
ONE-TO-ONE

In one-to-one mapping, an entity in E1 is associated with at most one entity in E2, and an entity in E2 is associated with at most one entity in E1.



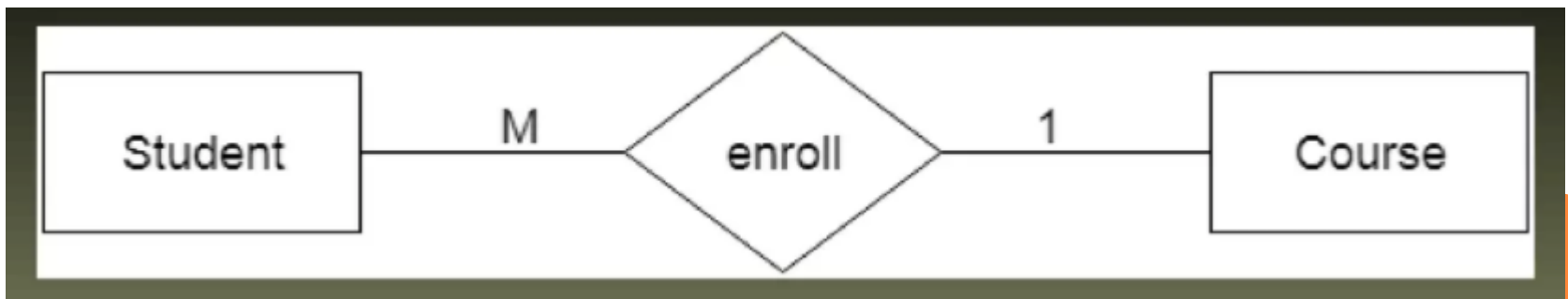
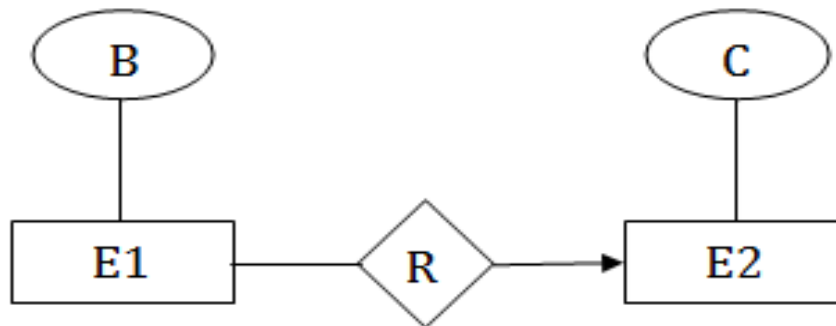
ONE-TO-MANY

In one-to-many mapping, an entity in E1 is associated with any number of entities in E2, and an entity in E2 is associated with at most one entity in E1.



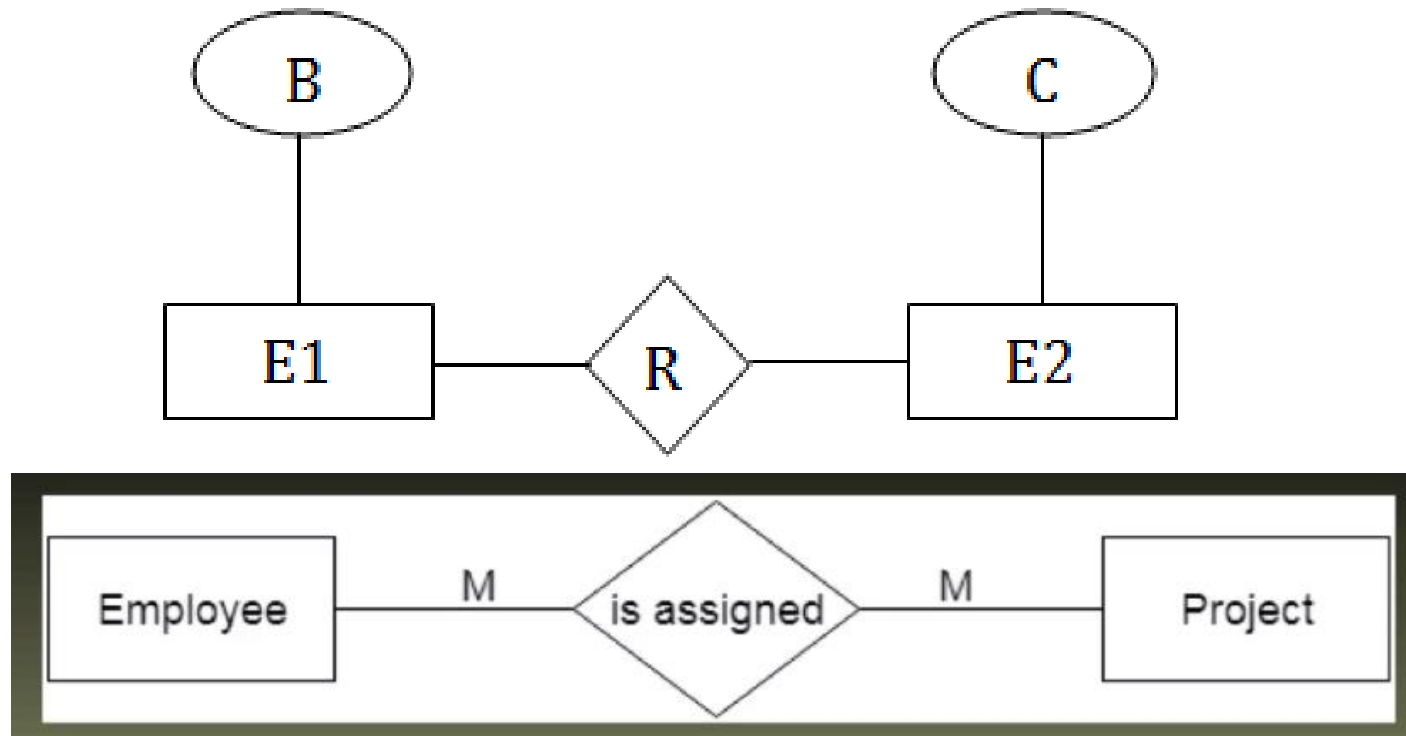
MANY-TO-ONE

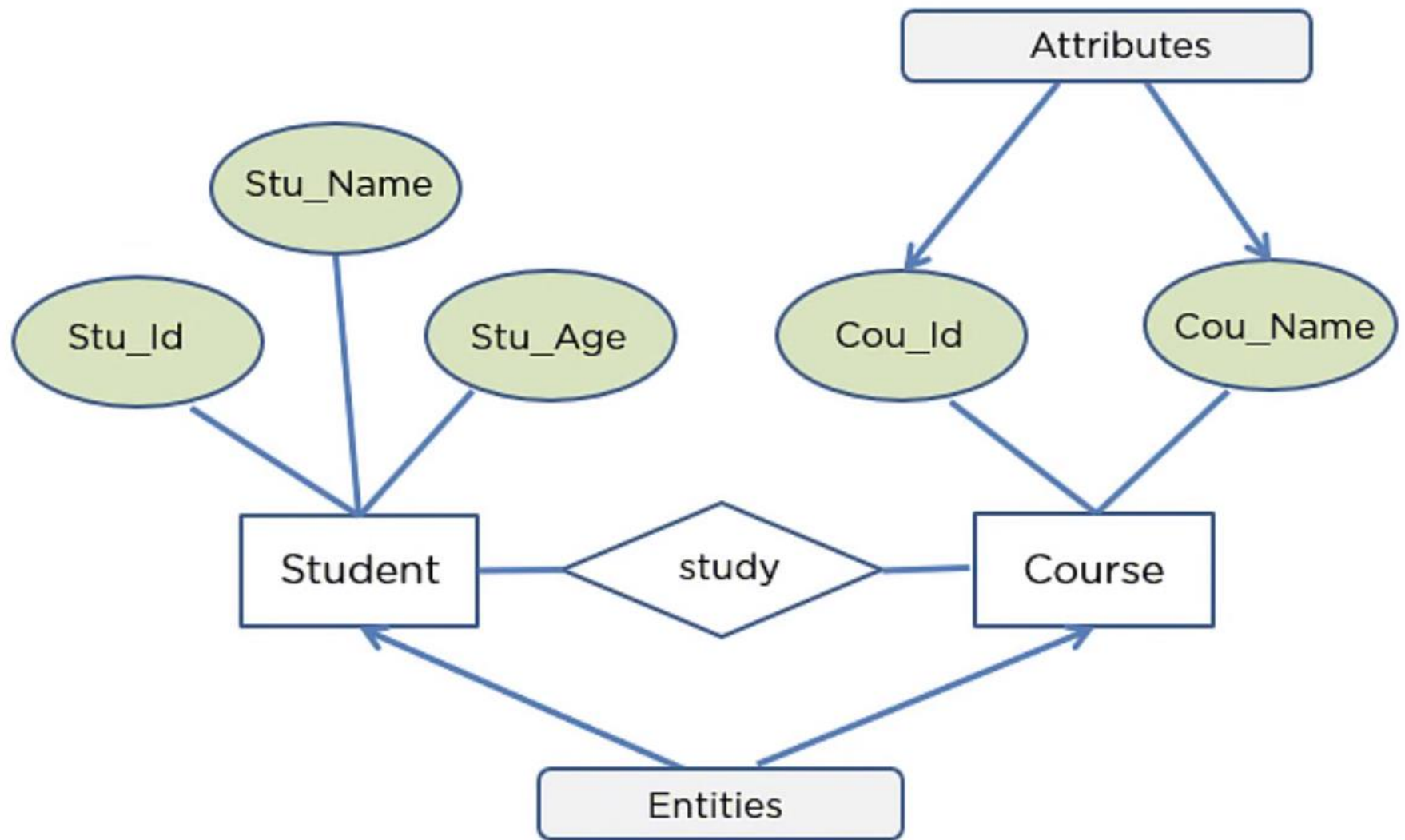
In one-to-many mapping, an entity in E1 is associated with at most one entity in E2, and an entity in E2 is associated with any number of entities in E1.



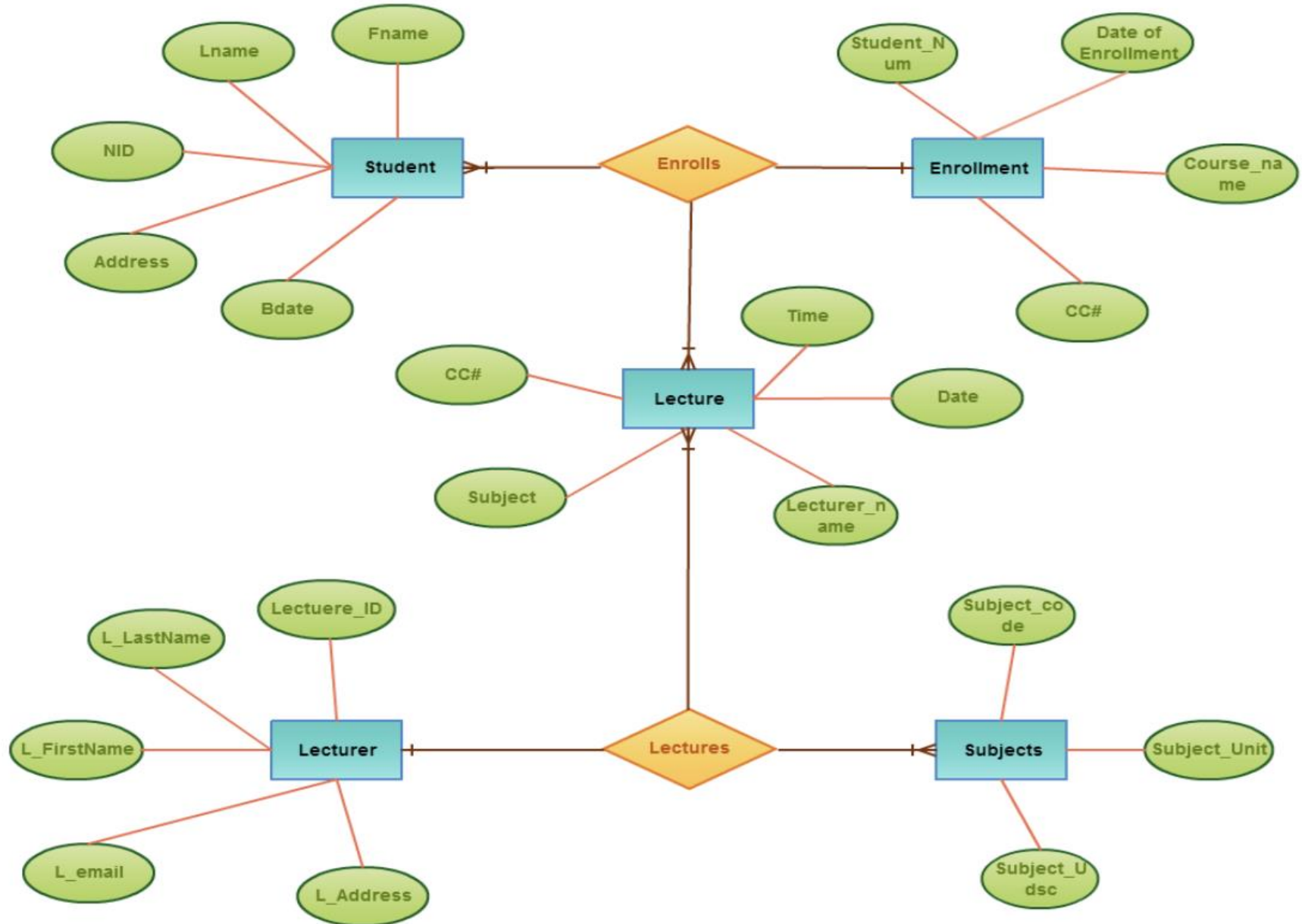
MANY-TO-MANY

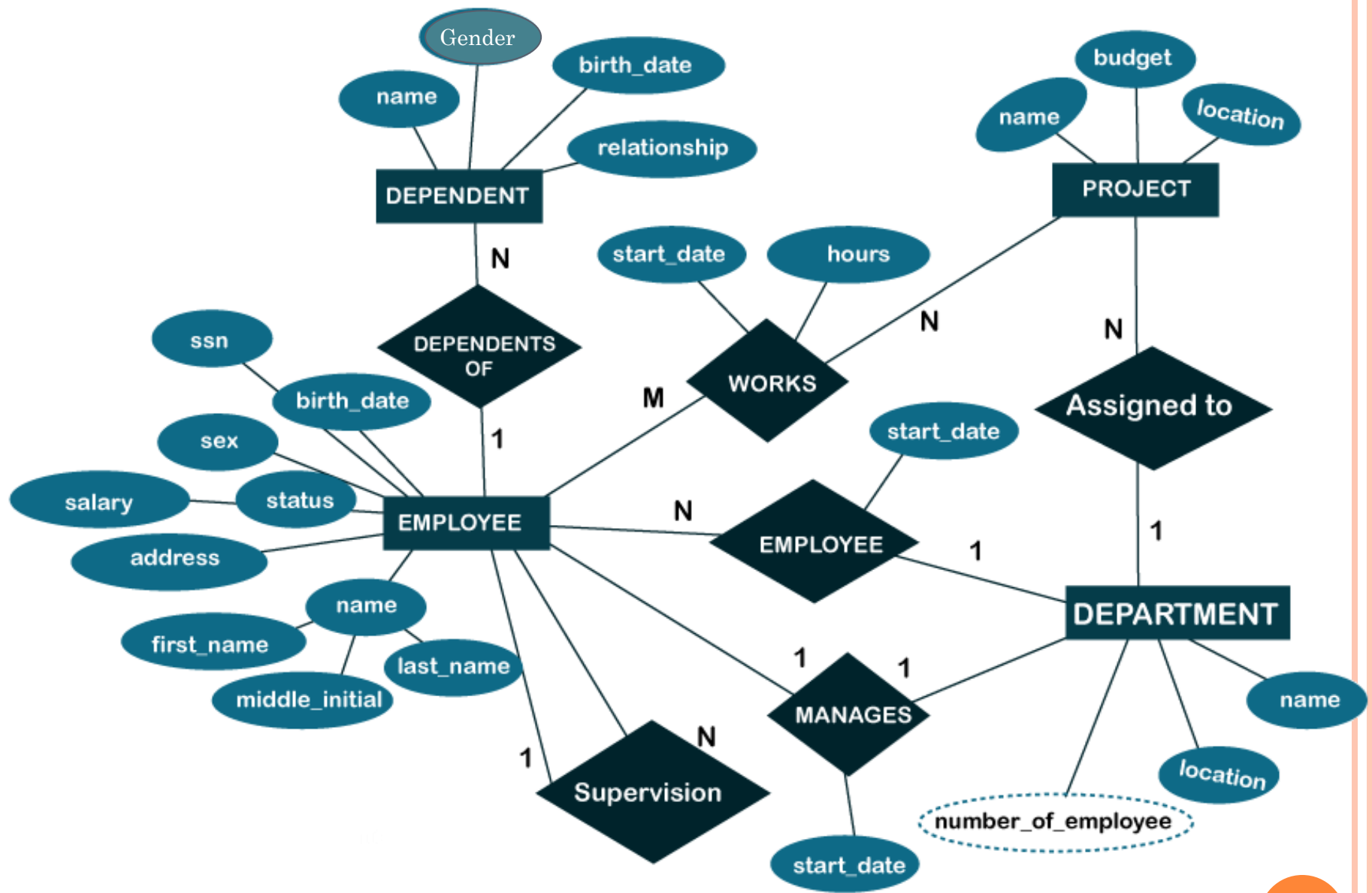
In many-to-many mapping, an entity in E1 is associated with any number of entities in E2, and an entity in E2 is associated with any number of entities in E1.



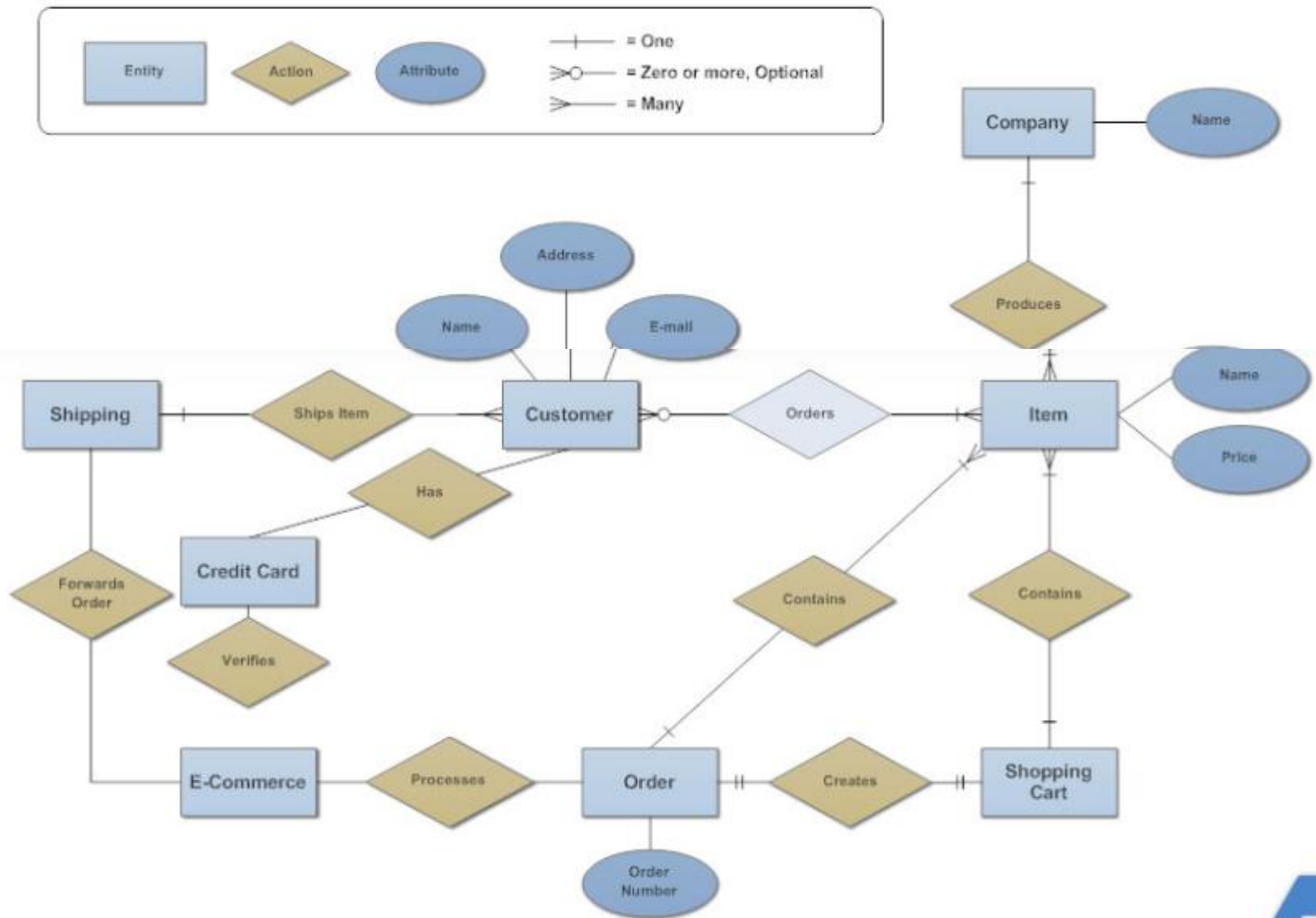


ER DIAGRAM FOR STUDENT ENROLLMENT SYSTEM





Entity Relationship Diagram - Internet Sales Model



THANK YOU

