

1. **Class diagram:** *a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.*

- (i) Class box: Represents a class or a template for objects. It consist of three sections where the class name is located in the top portion, the attributes (data members) of the class are located in the middle area, and the class actions (methods) are located in the bottom section.
- (ii) Attribute Notation: Represents the characteristics or properties of a class.
- (iii) Aggregation: Represents a "whole-part" relationship between classes. It is depicted by a line with a hollow diamond shape at the end connected to the whole class.

2. **Sequence Diagram:** *A sequence diagram is a diagram created using the Unified Modeling Language (UML) that shows the messages that are sent back and forth between objects during an interaction. A sequence diagram shows a set of objects, symbolized by lifelines, together with the messages they exchange throughout the course of their relationship.*

- (i) Lifeline: Represents an instance of a class or an object participating in the interaction.
- (ii) Activation Box: Represents the period of time during which an object is actively executing a method. It is depicted as a rectangular box on a lifeline, usually placed vertically above the lifeline.

- (iii) Message: Represents a communication or interaction between objects. It is depicted as an arrow or a line with an arrowhead pointing from the sender to the receiver.
- (iv) Self-Message: represents a message that an object sent to itself. It depicted as an arrowed Line looped back to the same lifeline.

**3. Use Case Diagram:** *The relationships between the actors in the system are also depicted in these diagrams. Use-case diagrams' actors and use cases explain how the system functions and is used by the actors, but they do not explain how the system is internally run.*

- (i) Use Case : it represents a particular capability or behaviour of the system, usually a user objective or a discrete task the system can carry out. It is depicted as an oval shape with a label representing the name of the use case.
- (ii) System Boundary: Represents the boundary or scope of the system being modeled. Represents the boundary or scope of the system being modeled.
- (iii) Association: Represents a relationship between an actor and a use case. It denotes that the actor is associated with or interacts with the use case.