

OOPs (Object-Oriented Programming System)

Object means a real-world entity such as a pen, chair, table, computer, watch, etc. Object-Oriented Programming is a methodology or paradigm to design a program using classes and objects. It simplifies software development and maintenance by providing some concepts

Object

Any entity that has state and behavior is known as an object. For example, a chair, pen, table, keyboard, bike, etc. It can be physical or logical

class

Collection of objects is called class. It is a logical entity

Inheritance

When one object acquires all the properties and behaviors of a parent object, it is known as inheritance. It provides code reusability. It is used to achieve runtime polymorphism.

Polymorphism

- If one task is performed in different ways, it is known as polymorphism. For example: to convince the customer differently, to draw something, for example, shape, triangle, rectangle, etc
- In Java, we use method overloading and method overriding to achieve polymorphism
- Another example can be to speak something; for example, a cat speaks meow, dog barks woof, etc

Abstraction

Hiding internal details and showing functionality is known as abstraction. For example phone call, we don't know the internal processing