

A class is a blueprint for creating objects. Attributes and Properties and Methods.

- 1.) Encapsulation – Bundling
- 2.) Abstraction is a fundamental concept in Object-Oriented Programming (OOP) that focuses on hiding the complex implementation details of a system and exposing only the essential features or behaviors.
- 3.) Polymorphism is one of the core concepts in Object-Oriented Programming (OOP). The word "polymorphism" comes from the Greek words "poly" (meaning "many") and "morph" (meaning "forms").
- 4.) Inheritance is a key concept in Object-Oriented Programming (OOP) that allows a new class (called a **derived** or **child** class) to inherit properties and behaviors (i.e., fields and methods) from an existing class (called a **base**, **parent**, or **super** class). Inheritance promotes code reusability, as it enables the creation of a new class by extending the functionality of an existing one.
- 5.) **Virtual Functions:** In languages like C++, a function declared as virtual in the base class allows derived classes to override it. The function to be executed is determined at runtime based on the type of the object, enabling dynamic method dispatch.