

The concept of objects is fundamental to object-oriented programming (OOP), and it revolves around three key aspects: state, behavior, and identity.

State:

Definition: For any given moment, the state of an object is formed from its characteristics.

Example: The state of 'car' can include properties like color, speed, fuel level and present gear.

Behavior:

Definition: This is a terminology that refers to the actions or methods that are performed by an object. They describe how the given object relates with others or its environment.

Example: Behaviors for cars can include accelerate, brake, changeGear, turnLeft.

Identity:

Definition: An object's identity is what separates it from other objects. It helps differentiate between multiple instances of the same class in the system.

Example: Every car on the road has certain unique identity such as a license plate number or Vehicle Identification Number (VIN).

Key Points:

- Encapsulation: Objects encapsulate both state and behavior. The object encapsulates the internal state and uses methods to control access to it, promoting data security

and integrity.

- Abstraction: Objects make real-world things seem less real by modeling their most important traits and interactions. This lets developers focus on what is important and ignore the details that are not necessary.
- Inheritance: Through inheritance, objects can inherit attributes and behaviors from other objects, fostering code reuse and creating a hierarchical structure.
- Polymorphism: Objects of different classes can be treated as objects of a common base class through polymorphism, enabling flexibility and extensibility in the code.

Related posts:

1. Abstraction and encapsulation
2. Object Oriented Programming & Methodolog Viva Voce
3. How to install compiler for code blocks
4. Object Oriented Programming
5. Differences between Procedural and Object Oriented Programming
6. Features of Object Oriented Paradigm
7. Inheritance in Object Oriented Programming
8. Object Oriented Programming
9. Introduction to Object Oriented Thinking & Object Oriented Programming
10. Difference Between Object-Oriented Programming (OOP) and Procedural Programming
11. features of Object oriented paradigm
12. Merits and demerits of Object Oriented methodology
13. Access modifiers
14. Static members of a Class
15. Instances in OOP
16. Message Passing in OOP

17. Construction and destruction of Objects