



JAVA

JAVA OOPS Concepts

JAVA: Oops Concept in Java

- **OOPs** : Object Oriented Programming System
- Java is Object Oriented Programming Language.
- **Object-Oriented Programming** is a methodology or paradigm to design a program using classes and objects.
- Class
- Object
- Encapsulation
- Inheritance
- Polymorphism
- Abstraction

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- **Object** : Any entity that has state and behaviour is known as an object. For example a chair, pen, table, keyboard, bike, etc. It can be physical or logical.
- **Example**: A dog is an object because it has states like colour, name, breed, etc. as well as behaviours like wagging the tail, barking, eating, etc.
- An Object can be defined as an instance of a class. In class State define by Variables and behaviour define by Methods.

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- **Class** : Collection of objects is called class. A class can also be defined as a blueprint from which you can create an individual object.
- **Inheritance** : When one object acquires all the properties and behaviours of a parent object, it is known as inheritance. It provides code reusability.
- **Polymorphism** : One task is performed by different ways, it is known as polymorphism. In Java, we use method overloading and method overriding to achieve polymorphism.
Example : speak something; for example, a cat speaks meow, dog barks woof, etc.

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- **Abstraction** : Hiding internal details and showing functionality is known as abstraction. In Java, we use abstract class and interface to achieve abstraction.
- **Encapsulation** : Binding (or wrapping) code and data together into a single unit are known as encapsulation. Java Class is example of Encapsulation.

Will see you in Next Lecture...

Thank you!

A close-up photograph of a hand holding a black marker, completing the cursive word 'Thank you!' on a white surface. The marker is positioned at the end of the exclamation mark, and the hand is visible on the right side of the frame.

See you in next lecture ...