OOPS-Features

OOPs (Object Oriented Programming System)

java oops concepts:
Object
Class
Inheritance
Polymorphism
Abstraction
Encapsulation

Object:

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

Class:

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

Inheritance:

When one object acquires all the properties and behaviours of parent object i.e. known as inheritance. It provides code reusability. It is used to achieve runtime polymorphism.

polymorphism in java oops concepts
Polymorphism:

When one task is performed by different ways i.e. known as polymorphism. For example: to convince the customer differently, to draw something e.g. shape or rectangle etc.

In java, we use method overloading and method overriding to achieve polymorphism.

Another example can be to speak something e.g. cat speaks meaw, 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.

In java, we use abstract class and interface to achieve abstraction.

encapsulation in java oops concepts
Encapsulation:

Binding (or wrapping) code and data together into a single unit is known as encapsulation. For example: capsule, it is wrapped with different medicines.

A java class is the example of encapsulation. Java bean is the fully encapsulated class because all the data members are private here.