

OOPS Interview questions

1.What are the core concepts of OOPS?

OOPS core concepts are;

- a. Abstraction
- b. Encapsulation
- c. Polymorphism
- d. Inheritance
- e. Composition
- f. Association
- g. Aggregation

2.What is Abstraction?

Abstraction is an OOPS concept to construct the structure of the real world objects. During this construction only the general states and behaviors are taken and more specific states and behaviors are left aside for the implementers.

3.What is Encapsulation?

Encapsulation is an OOPS concept to create and define the permissions and restrictions of an object and its member variables and methods. A very simple example to explain the concept is to make the member variables of a class private and providing public getter and setter methods. Java provides four types of access level modifiers: public, protected, no modifier and private.

4.What is the difference between Abstraction and Encapsulation?

- a. "Program to interfaces, not implementations" is the principle for Abstraction and "Encapsulate what varies" is the OO principle for Encapsulation.
- b. Abstraction provides a general structure of a class and leaves the details for the implementers. Encapsulation is to create and define the permissions and restrictions of an object and its member variables and methods.
- c. Abstraction is implemented in Java using interface and abstract class while Encapsulation is implemented using four types of access level modifiers: public, protected, no modifier and private.

5.What is Polymorphism?

Polymorphism is the occurrence of something in various forms. Java supports various forms of polymorphism like polymorphic reference variables, polymorphic method, polymorphic return types and polymorphic argument types.

6.What is Inheritance?

A subclass can inherit the states and behaviors of it's super class is known as inheritance.

7.What is multiple inheritance?

A child class inheriting states and behaviors from multiple parent classes is known as multiple inheritance.

8.What is the diamond problem in inheritance?

In case of multiple inheritance, suppose class A has two subclasses B and C, and a class D has two super classes B and C.If a method present in A is overridden by both B and C but not by D then from which class D will inherit that method B or C? This problem is known as diamond problem.

9.Why Java does not support multiple inheritance?

Java was designed to be a simple language and multiple inheritance introduces complexities like diamond problem. Inheriting states or behaviors from two different type of classes is a case which in reality very rare and it can be achieved easily through an object association.

10.What is Static Binding and Dynamic Binding?

Static or early binding is resolved at compile time. Method overloading is an example of static binding.

Dynamic or late or virtual binding is resolved at run time. Method overriding is an example of dynamic binding.

2.What is a Class?

A class is the specification or template of an object.

1.What is an Object?

Object is instance of class.