**OOPS INTERVIEW QUESTIONS**

1. Early and Late Binding:

* Early binding refers to the association of a method call with the actual code that will be executed during compile-time. It occurs when the method to be invoked is known during compile-time.
* Late binding, on the other hand, occurs during runtime where the method call is resolved at runtime. It allows flexibility in method invocation and is typically associated with dynamic dispatch and polymorphism.

1. Which OOPS concept is used as a reuse mechanism?

* In Object-Oriented Programming (OOP), the concept of "Inheritance" is primarily used as a reuse mechanism. It allows a new class to inherit properties and behaviors (methods) from an existing class.

1. Different Inheritance Types:

* Single inheritance
* Multiple inheritance (some languages support it, but others like Java don't directly)
* Multilevel inheritance
* Hierarchical inheritance

1. Multiple Inheritance:

* Multiple inheritance is a feature in some object-oriented programming languages where a class can inherit properties and behavior from more than one parent class.

1. Compile-time Polymorphism:

* Compile-time polymorphism is achieved using method overloading and operator overloading. It allows different functions to be invoked depending on the arguments provided or the operation being performed, and this resolution happens at compile-time.

1. Widely used OOP languages:

* Some widely used Object-Oriented Programming languages include Java, C++, Python, C#, and Ruby.

1. Virtual Function:

* A virtual function is a member function in a base class that is overridden by a derived class. It allows the function to be redefined in a derived class while preserving the base class's interface.

1. Difference between an Instance Variable and a Class Variable:

* Instance variables are specific to each object of a class and have separate copies for each instance/object. Class variables are shared among all instances of the class.

1. Fundamental Principles of OOPs:

* Abstraction, Encapsulation, Inheritance, and Polymorphism (often referred to as the four pillars of OOP).

1. Private, Protected, and Public Access Modifiers in OOPs:

* Private: Accessible only within the class.
* Protected: Accessible within the class and its subclasses.
* Public: Accessible from anywhere.

1. Different Types of Constructors:

* Default Constructor
* Parameterized Constructor
* Copy Constructor

1. Superclass:

* A superclass is the class from which other classes (called subclasses or derived classes) inherit properties and methods. It's also referred to as a parent class.

1. Features of Polymorphism:

* Ability to take multiple forms.
* Method overriding.
* Compile-time and runtime polymorphism.