Q1. What is the meaning of multiple inheritance?

Multiple inheritance allows a class to inherit from more than one parent class, combining their attributes and methods. In Python, the method resolution order (MRO) determines the order in which base classes are searched. This can lead to complexity and issues like the diamond problem, but Python's MRO helps manage these challenges.

Q2. What is the concept of delegation?

Delegation in object-oriented programming is the practice of passing responsibility for certain tasks or methods to another object. Instead of a class handling all operations internally, it delegates some operations to other objects, allowing for more modular and flexible design.

Q3. What is the concept of composition?

Composition is a design principle in object-oriented programming where a class is composed of one or more objects from other classes, rather than inheriting from them. This allows a class to build complex behaviors by combining simpler, reusable components.

Q4. What are bound methods and how do we use them?

Methods associated with a specific instance, automatically receiving the instance as the first argument. They are created by accessing a method on an instance and are called like regular methods.

When you access a method on an instance, Python creates a bound method, which has the instance as its first argument. You call bound methods just like regular methods, and the instance is automatically passed as the first argument.

Q5. What is the purpose of pseudoprivate attributes?

Pseudoprivate attributes are a naming convention in Python used to indicate that an attribute or method is intended for internal use within a class and should not be accessed directly from outside the class. They help signal to developers that these attributes or methods are part of the class's internal implementation and are not meant to be part of the public API.