1) What is the concept of an abstract superclass?

An abstract superclass is a class that is designed to be subclassed but not instantiated itself. It often defines one or more abstract methods, which are methods without implementation. Subclasses are required to provide implementations for these abstract methods. Abstract superclasses serve as blueprints for subclasses, enforcing a common interface or behavior across multiple related classes.

2) What happens when a class statement's top level contains a basic assignment statement?

When a class statement's top level contains a basic assignment statement, it creates a class attribute with the assigned value. This class attribute is accessible to all instances of the class and can also be accessed via the class itself.

3) Why does a class need to manually call a superclass's init method?

In Python, if a subclass defines its \_\_init\_\_ method, it does not automatically call the superclass's \_\_init\_\_ method unless explicitly instructed to do so. Therefore, a class needs to manually call a superclass's \_\_init\_\_ method to ensure that any initialization defined in the superclass is executed when instances of the subclass are created.

4) How can you augment, instead of completely replacing, an inherited method?

You can augment an inherited method by calling the superclass's method from within the subclass's method using the super() function. This allows you to extend or modify the behavior of the inherited method while still leveraging its functionality. By calling super().method\_name(), you invoke the superclass's method and can then add additional behavior before or after the call.

5) How is the local scope of a class different from that of a function?

In Python, the local scope of a class refers to the namespace within the class definition, where class attributes and methods are defined. This scope is accessible within the class but not outside of it. On the other hand, the local scope of a function refers to the namespace within the function definition, where local variables are defined. This scope is accessible only within the function and is discarded once the function execution completes.