29 Lecture - CS304

Important Subjective

1. **What is an abstract class?**
   An abstract class is a class that cannot be instantiated and is used as a base class for creating derived classes. It contains one or more abstract methods, which have no implementation in the base class but are implemented in the derived classes.
   How is an abstract class different from a concrete class?
   An abstract class cannot be instantiated, whereas a concrete class can be instantiated.
   An abstract class may contain one or more abstract methods, whereas a concrete class does not contain any abstract methods.
   An abstract class may contain both abstract and non-abstract methods, whereas a concrete class contains only non-abstract methods.
   Can an abstract class have a constructor?
   Yes, an abstract class can have a constructor. However, it cannot be used to instantiate an object of the abstract class. The constructor is used to initialize the members of the class when a derived class object is created.
   How do you declare an abstract method in a class?
   To declare an abstract method in a class, you need to use the abstract keyword before the method declaration. For example: abstract void methodName();
   Can a concrete class inherit from an abstract class?
   Yes, a concrete class can inherit from an abstract class. However, the concrete class must implement all the abstract methods of the abstract class.
   Can an abstract class implement an interface?
   Yes, an abstract class can implement an interface. In this case, the abstract class must provide implementations for all the methods in the interface.
   What is the purpose of an abstract class?
   The purpose of an abstract class is to provide a common base for a set of related classes. It defines the common behavior and properties of the derived classes and provides a framework for implementing the behavior.
   Can an abstract class have a final method?
   Yes, an abstract class can have a final method. However, the method cannot be abstract.
   Can an abstract class have a static method?
   Yes, an abstract class can have a static method. However, the method cannot be abstract.
   Can an abstract class be marked as final?
   No, an abstract class cannot be marked as final because it is meant to be inherited by other classes.