# 4 Lecture - CS304

## **Important Subjective**

## 1. What is inheritance in object-oriented programming?

Answer: Inheritance is a mechanism that allows new classes to be based on existing classes, inheriting their properties and methods.

## What is the difference between a superclass and a subclass?

Answer: A superclass is a class that is inherited by another class, while a subclass is a class that inherits from another class.

## How does inheritance promote code reuse?

Answer: Inheritance promotes code reuse by allowing a subclass to inherit properties and methods from its parent class, reducing the need to write duplicate code.

## What is method overriding in inheritance?

Answer: Method overriding is when a subclass provides its own implementation of a method that is already defined in its parent class.

## What is the difference between method overriding and method overloading?

Answer: Method overriding is when a subclass provides its own implementation of a method that is already defined in its parent class, while method overloading is when a class has multiple methods with the same name but different parameters.

### What is the purpose of access modifiers in inheritance?

Answer: Access modifiers in inheritance control the visibility of inherited members, allowing subclasses to access or modify inherited properties and methods according to their accessibility.

## What is polymorphism in inheritance?

Answer: Polymorphism in inheritance is the ability of objects of different classes to be treated as if they are of the same type, allowing them to be used interchangeably.

### What is the difference between single and multiple inheritance?

Answer: Single inheritance is when a subclass inherits from only one parent class, while multiple inheritance is when a subclass inherits from multiple parent classes.

## What are the advantages of using inheritance in object-oriented programming?

Answer: Advantages of using inheritance include reduced code redundancy, easier maintenance, increased modularity, and the ability to achieve polymorphism.

## What are some potential drawbacks of using multiple inheritance?

Answer: Potential drawbacks of using multiple inheritance include increased complexity and ambiguity, the possibility of naming conflicts, and difficulty in maintaining and understanding the code.