

# 6 Lecture - CS304

## Important Subjective

1. **What is class compatibility, and why is it important in object-oriented programming?**

Answer: Class compatibility refers to the ability of one class to use objects of another class without errors. It is important in object-oriented programming because it allows classes to work together effectively and reduces the likelihood of errors and bugs.

**What is the difference between static and dynamic class compatibility?**

Answer: Static class compatibility is checked at compile time, while dynamic class compatibility is checked at runtime.

**How can inheritance affect class compatibility?**

Answer: Inheritance can affect class compatibility by allowing subclasses to use objects of their parent classes.

**How can interfaces affect class compatibility?**

Answer: Interfaces can affect class compatibility by allowing objects of different classes to be used interchangeably if they implement the same interface.

**What is type checking, and how is it related to class compatibility?**

Answer: Type checking is the process of checking if a variable or object is of a specific type, and it is related to class compatibility because it ensures that objects are compatible before they are used.

**What is casting, and how is it related to class compatibility?**

Answer: Casting is the process of converting an object to a different type, and it is related to class compatibility because it allows objects to be used in contexts where they would not normally be compatible.

**What happens if an object is cast to an incompatible type?**

Answer: If an object is cast to an incompatible type, an exception is thrown at runtime.

**How can method signatures affect class compatibility?**

Answer: Method signatures can affect class compatibility by requiring that objects used in certain contexts have specific methods.

**Can class compatibility be affected by the names of classes or methods?**

Answer: No, class compatibility is not affected by the names of classes or methods.

**How can class compatibility be ensured in software development?**

Answer: Class compatibility can be ensured in software development by following good design principles, such as using inheritance and interfaces appropriately, and by testing software thoroughly before it is released.