

# 6 Lecture - CS304

## Important Mcqs

1. **What is class compatibility in object-oriented programming?**

- a) The ability of classes to be used interchangeably
- b) The ability of one class to use objects of another class without errors
- c) The ability of classes to be inherited from each other
- d) The ability of classes to have the same name

**Answer: b) The ability of one class to use objects of another class without errors**

**Which of the following can affect class compatibility?**

- a) Inheritance
- b) Interfaces
- c) Method signatures
- d) All of the above

**Answer: d) All of the above**

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

- a) Static compatibility is checked at compile time, while dynamic compatibility is checked at runtime
- b) Static compatibility is checked at runtime, while dynamic compatibility is checked at compile time
- c) There is no difference between static and dynamic class compatibility
- d) Static compatibility is a type of inheritance, while dynamic compatibility is a type of polymorphism

**Answer: a) Static compatibility is checked at compile time, while dynamic compatibility is checked at runtime**

**Which of the following is an example of static class compatibility?**

- a) An object of a subclass being passed to a method that expects an object of the superclass
- b) An object of a class implementing an interface being passed to a method that expects an object of the interface
- c) An object of a class with a compatible method signature being passed to a method
- d) None of the above

**Answer: c) An object of a class with a compatible method signature being passed to a method**

**Which of the following is an example of dynamic class compatibility?**

- a) A superclass reference being used to refer to an object of a subclass
- b) An interface reference being used to refer to an object of a class implementing the interface
- c) A method being overridden in a subclass
- d) All of the above

**Answer: a) A superclass reference being used to refer to an object of a subclass**

**What is type checking in relation to class compatibility?**

- a) The process of checking if a variable or object is of a specific type
- b) The process of checking if two classes are compatible

- c) The process of checking if an object can be cast to a specific type
- d) The process of checking if a method signature is compatible with a class

Answer: a) The process of checking if a variable or object is of a specific type

#### **What is casting in relation to class compatibility?**

- a) The process of checking if a variable or object is of a specific type
- b) The process of checking if two classes are compatible
- c) The process of converting an object to a different type
- d) The process of checking if a method signature is compatible with a class

Answer: c) The process of converting an object to a different type

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

- a) An exception is thrown at runtime
- b) The object is automatically converted to the compatible type
- c) The object remains unchanged
- d) None of the above

Answer: a) An exception is thrown at runtime

#### **Which of the following is an example of a type casting error?**

- a) Casting an object of a subclass to a superclass type
- b) Casting an object of an interface implementation to an interface type
- c) Casting an object to a different type than it was created as
- d) All of the above

Answer: d) All of the above

#### **Why is class compatibility important in software development?**

- a) It ensures that classes can work together effectively
- b) It makes software systems easier to maintain
- c) It reduces the likelihood of errors and bugs
- d) All