

17 Lecture - CS304

Important Subjective

1. What is the purpose of overloading the assignment operator?

Answer: The purpose of overloading the assignment operator is to allow an object to be assigned values of the same class or a compatible data type, just like any other built-in data type.

How do you overload the assignment operator?

Answer: The assignment operator can be overloaded by defining a member function that takes a reference to the class as a parameter and returns a reference to the same class.

What is the default behavior of the assignment operator?

Answer: The default behavior of the assignment operator is to perform a shallow copy of the object's data members.

What is the difference between a shallow copy and a deep copy?

Answer: A shallow copy copies only the pointer values of an object's data members, while a deep copy creates new memory for the copied object's data members and copies the values.

What is the syntax for overloading the assignment operator?

Answer: The syntax for overloading the assignment operator is:

```
kotlin
Copy code
class MyClass {
public:
    MyClass& operator=(const MyClass& other) {
        // assignment logic here
        return *this;
    }
};
```

What is the return type of the overloaded assignment operator?

Answer: The return type of the overloaded assignment operator is a reference to the class, denoted by `MyClass&` in the above example.

Can the assignment operator be overloaded as a friend function?

Answer: Yes, the assignment operator can be overloaded as a friend function, which allows access to private data members.

What is the copy-and-swap idiom and how does it relate to overloading the assignment operator?

Answer: The copy-and-swap idiom is a design pattern used to implement the assignment operator by creating a temporary copy of the object and then swapping the temporary with the original object. This technique can simplify the code required to overload the assignment

operator.

What is the difference between the assignment operator and the copy constructor?

Answer: The assignment operator is used to assign one object to another, while the copy constructor is used to create a new object with the same values as an existing object.

When should the assignment operator be overloaded?

Answer: The assignment operator should be overloaded whenever a class has dynamically allocated memory or non-static data members that need to be copied over during assignment.