11 Lecture - CS304

Important Subjective

1. **What is the purpose of using constant member functions?**
   Answer: The purpose of using constant member functions is to ensure that the object's state cannot be modified by the function. This is useful in scenarios where multiple objects share the same data, and modification could result in unintended consequences.

   Give an example of a scenario where constant member functions would be useful.
   Answer: An example of a scenario where constant member functions would be useful is when implementing a class that represents a mathematical vector. In this case, it may be desirable to provide member functions that return the length or magnitude of the vector, without allowing any modification of the vector itself.

   Can a constant member function modify the state of the object?
   Answer: No, a constant member function cannot modify the state of the object it is called on.

   How do you declare a member function as constant?
   Answer: To declare a member function as constant, use the const keyword after the function declaration.

   What is the benefit of using constant member functions?
   Answer: The benefit of using constant member functions is that it ensures that the object cannot be modified, which can prevent unintended consequences and improve performance by allowing the compiler to optimize the code more effectively.

   What is the return type of a constant member function?
   Answer: The return type of a constant member function depends on the implementation and can be any valid data type.

   How do you call a constant member function?
   Answer: You call a constant member function by using the object name followed by the dot operator and the function name, for example: obj.get_value() const.

   Can you call a non-constant member function from a constant member function?
   Answer: No, you cannot call a non-constant member function from a constant member function.

   What is the purpose of marking a member function as constant?
   Answer: The purpose of marking a member function as constant is to ensure that the function cannot modify the object it is called on.

   Can a constant member function access private member variables of the class?
   Answer: Yes, a constant member function can access private member variables of the class, as long as it does not modify them.