

12 Lecture - CS304

Important Subjective

1. **What is a static data member, and how is it different from a regular data member in C++?**

Answer: A static data member is a data member that is shared among all objects of a class and can be accessed without creating an instance of the class. It is declared using the static keyword and has a single storage location that is initialized to zero. The main difference between a static and regular data member is that the static data member is not associated with a particular instance of the class, whereas a regular data member is.

How is a static data member initialized in C++?

Answer: A static data member can be initialized using a static member initializer, which is a constant expression. Alternatively, it can be initialized using a static member function that returns a value of the appropriate type.

Can a static data member be initialized in the constructor of a class in C++?

Answer: No, a static data member cannot be initialized in the constructor of a class in C++. This is because the static data member is associated with the class itself, not with any particular instance of the class.

How is a static data member accessed outside the class in C++?

Answer: A static data member can be accessed outside the class using the scope resolution operator (::) followed by the name of the class and the name of the static data member.

Can a static data member be accessed using an instance of the class in C++?

Answer: Yes, a static data member can be accessed using an instance of the class, but it is not recommended because it is misleading and can cause confusion.

How is a static data member declared in a class in C++?

Answer: A static data member is declared using the static keyword before the data member declaration in the class definition.

Can a static data member be of any data type in C++?

Answer: Yes, a static data member can be of any data type in C++, including built-in data types, user-defined data types, and pointer types.

Can a static data member be declared as const in C++?

Answer: Yes, a static data member can be declared as const in C++ by using the const keyword before the data member declaration in the class definition.

How is a static data member accessed within the class in C++?

Answer: A static data member can be accessed within the class using the class name followed by the scope resolution operator (::) and the name of the static data member.

Can a static data member be declared as private in C++?

Answer: Yes, a static data member can be declared as private in C++ to restrict its access to

the member functions of the class.