CPP Interview Questions for fresher

Topics : CPP Interview Questions
Written on November 22, 2023

1. **What is C++?**
    - C++ is a general-purpose programming language that is an extension of the C programming language. It supports both procedural and object-oriented programming paradigms.
2. **What is the difference between C and C++?**
    - C++ is an extension of C and includes features like classes and objects, inheritance, polymorphism, and encapsulation, which are not present in C.
3. **Explain the concept of Object-Oriented Programming (OOP) and its pillars.**
    - OOP is a programming paradigm that uses objects and classes. The four pillars of OOP are encapsulation, inheritance, polymorphism, and abstraction.
4. **What is a class and an object in C++?**
    - A class is a blueprint for creating objects, and an object is an instance of a class.
5. **What is the difference between public, private, and protected access specifiers?**
    - Public members are accessible from outside the class, private members are only accessible within the class, and protected members are accessible within the class and its subclasses.
6. **Explain the concept of constructor and destructor in C++.**
    - A constructor is a special member function that is called when an object is created. A destructor is a special member function that is called when an object goes out of scope or is explicitly deleted.
7. **What is function overloading and operator overloading?**
    - Function overloading is the ability to define multiple functions with the same name but different parameter lists. Operator overloading is the ability to redefine the behavior of operators for user-defined data types.
8. **What is the difference between reference and pointer?**

- A reference is an alias for a variable, and once a reference is initialized, it cannot be changed to refer to another variable. A pointer is a variable that stores the address of another variable, and it can be changed to point to a different variable.

9. **What is dynamic memory allocation in C++?**
   - Dynamic memory allocation in C++ is done using operators `new` and `delete` or `malloc()` and `free()`. It allows the allocation and deallocation of memory during program execution.

10. **Explain the concept of virtual functions and pure virtual functions.**
    - Virtual functions are functions declared in a base class that can be overridden by derived classes. A pure virtual function is a virtual function with no implementation in the base class, making it necessary for derived classes to provide an implementation.

11. **What is the use of the `const` keyword in C++?**
    - The `const` keyword is used to declare constants, indicate that a variable cannot be modified, and specify that a member function does not modify the object it is called on.

12. **Explain the difference between pass by value and pass by reference.**
    - Pass by value involves passing the actual value of a variable to a function, while pass by reference involves passing the memory address (reference) of a variable. Changes made to the parameter in pass by reference affect the original variable.