C++ Programming Interview Questions

1) Explain what is a class in C++?

A class in C++ can be defined as a collection of function and related data under a single name. It is a blueprint of objects. A C++ program can consist of any number of classes.

2) How can you specify a class in C++?

By using the keyword class followed by identifier (name of class) you can specify the class in C++. Inside curly brackets, body of the class is defined. It is terminated by semi-colon in the end.

```
For example,
class name{
// some data
// some functions
};
```

3) Explain what is the use of void main () in C++ language?

To run the C++ application it involves two steps, the first step is a compilation where conversion of C++ code to object code take place. While second step includes linking, where combining of object code from the programmer and from libraries takes place. This function is operated by main () in C++ language.

4) Explain what is C++ objects?

Class gives blueprints for object, so basically an object is created from a class or in other words an object is an instance of a class. The data and functions are bundled together as a self-contained unit called an object. Here, in the example A and B is the Object.

For example,

```
Class Student
{
Public:
Int rollno;
String name;
} A, B;
```

6) Explain what is Member Functions in Classes?

The member function regulates the behaviour of the class. It provides a definition for supporting various operations on data held in the form of an object.

7) Define basic type of variable used for a different condition in C++?

Here are the basic types of [C++ variables](#):

- **Bool:** Variable to store boolean values (true or false)
- **Char:** Variable to store character types
- **int:** Variable with integral values
- **float and double:** Types of variables with large and floating point values

8) What is namespace std; and what is consists of?

Namespace std; defines your standard C++ library, it consists of classes, objects and functions of the standard C++ library. You can specify the library by using namespace std or std: : throughout the code. Namespace is used to differentiate the same functions in a library by defining the name.

9) Explain what is Loop function? What are different types of Loops?

In any programming language, to execute a set of statements repeatedly until a particular condition is satisfied Loop function is used. The loop statement is kept under the curly braces { } referred as Loop body.

In C++ language, three [types of loops](#) are used

- While loop
- For loop
- Do-while loop

10) Explain how functions are classified in C++ ?

In C++ functions are classified as

- Return type
- Function Name
- Parameters
- Function body

C++ Interview Questions and Answers for Experienced

11) Explain what are Access specifiers in C++ class? What are the types?

Access specifiers determine the access rights for the statements or functions that follow it until the end of class or another specifier is included. Access specifiers decide how the members of the class can be accessed. There are three types of specifiers.

- Private
- Public
- Protected

12) Explain what are Operators and explain with an example?

Operators are specific operands in C++ that is used to perform specific operations to obtain a result. The [different types of operators available for C++](#) are Assignment Operator, Compound Assignment Operator, Arithmetic Operator, Increment Operator and so on.

For example arithmetic operators, you want to add two values a+b

```
#include
Using namespace std;

main ()
{
int a= 21 ;
int b= 10 ;
int c;
c= a + b;
cout << "Line 1- Value of c is : " << c << endl ;
return 0;
}
```
It will give the output as 31 when you run the command

13) What is the C-style character string?

The string is actually a one-dimensional array of characters that is terminated by a null character '\0'.
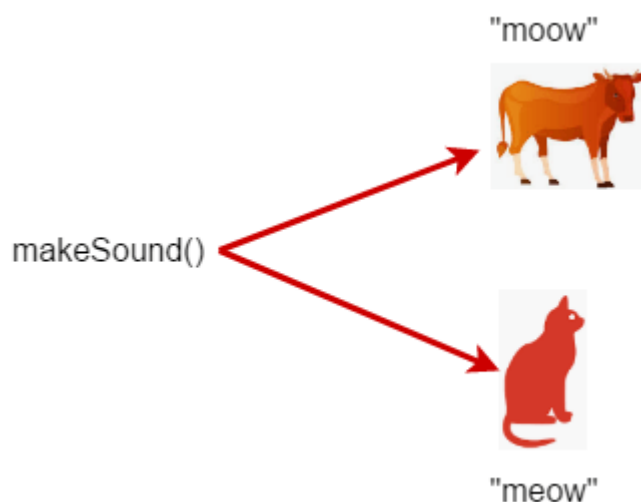
For example, to type hello word

```
#include
Using namespace std;
int main ()
{
char greeting[6] = { 'H' , 'e' , 'l' ,'l' , 'o' , '\0'};
cout << "Greeting message:" ;
cout << greeting << endl;
return 0;
}
```

14) Explain what is a reference variable in C++?

A reference variable is just like a pointer with few differences. It is declared using & Operator. In other words, reference is another name for an already existing variable.

15) Explain what is Polymorphism in C++?

Polymorphism in C++ is the ability to call different functions by using only one type of the function call. Polymorphism is referred to codes, operations or objects that behave differently in a different context.

Polymorphism in C++

For example, the addition function can be used in many contests like

- 5+5 Integer addition
- Medical+Internship The same (+) operator can be used with different meaning with strings
- 3.14 + 2.27 The same (+) operator can be used for floating point addition

16) Explain what is data abstraction in C++?

Data abstraction is a technique to provide essential information to the outside world while hiding the background details. Here in below example you don't have to understand how cout display the text "Hello guru99" on the user screen and at the same time implementation of cout is free to change

For example,

```
#include
Using namespace std;

int main ( )
{
cout << "Hello guru99" <<endl;
return 0 ;
}
```

17) Explain what is C++ exceptional handling?

The problem that arises during execution of a program is referred as exceptional handling. The exceptional handling in C++ is done by three keywords.

- Try: It identifies a block of code for which particular exceptions will be activated
- Catch: The catch keyword indicates the catching of an exception by an exception handler at the place in a program
- Throw: When a problem exists while running the code, the program throws an exception

18) Explain what is data encapsulation in C++?

Encapsulation is an object oriented programming concept (oops) which binds together the data and functions. It is also referred as data hiding mechanism.

19) Mention what are the types of Member Functions?

The types of member functions are

- Simple functions
- Static functions
- Const functions
- Inline functions
- Friend functions

20) Mention what are the decision making statements in C++? Explain if statement with an example?

The decision making statements in C++ are

- if statement
- switch statement
- conditional operator

For example, we want to implement if condition in C++

```
#include
int main ( )
{
  int, x, y;
  X= 10;
  Y= 5;
  if (x > y)
  {
    Cout << "x is greater than y";
  }
}
```

21) Explain what is multi-threading in C++?

To run two or more programs simultaneously multi-threading is useful. There are two types of

- Process-based: It handles the concurrent execution of the program

- Thread-based: It deals with the concurrent execution of pieces of the same program

22) Explain what is upcasting in C++?

Upcasting is the act of converting a sub class references or pointer into its super class reference or pointer is called upcasting.

23) Explain what is pre-processor in C++?

Pre-processors are the directives, which give instruction to the compiler to pre-process the information before actual compilation starts.

24) Explain what is COPY CONSTRUCTOR and what is it used for?

COPY CONSTRUCTOR is a technique that accepts an object of the same class and copies its data member to an object on the left part of the assignment.