

one-mark questions answers for C++ : Lathiya Harshal.

1. What is a class in C++?

A class is a user-defined data type that serves as a blueprint for creating objects, bundling data and methods together.

2. What is an object in C++?

An object is an instance of a class that can hold data and functions.

3. What is a constructor in C++?

A constructor is a special member function that initializes objects of a class when they are created.

4. What is a destructor in C++?

A destructor is a special member function that is automatically called when an object is destroyed to clean up resources.

5. What is function overloading in C++?

Function overloading allows multiple functions with the same name to have different parameter lists.

6. What is inheritance in C++?

Inheritance is a feature that allows a new class (derived class) to inherit properties and behaviors from an existing class (base class).

7. What is polymorphism in C++?

Polymorphism allows functions or methods to behave differently based on the object or data type they are acting upon, achieved through function overloading and overriding.

8. What is a pointer in C++?

A pointer is a variable that stores the memory address of another variable.

9. What is a reference variable in C++?

A reference variable is an alias for another variable and is created using the '&' symbol.

10. What is encapsulation in C++?

Encapsulation is the concept of wrapping data and functions into a single unit (class) and restricting access to certain components.

11. What is abstraction in C++?

Abstraction is the process of hiding the internal implementation details and showing only the essential features to the user.

12. What is the scope resolution operator in C++?

The scope resolution operator '::' is used to define a function outside a class or access global variables.

13. What is the use of 'this' pointer in C++?

The 'this' pointer points to the current object of the class and is used to access members of that object.

14. What is a friend function in C++?

A friend function is a function that is not a member of a class but can access the class's private and protected members.

15. What is the difference between 'struct' and 'class' in C++?

By default, members of a 'struct' are public, while members of a 'class' are private.

16. What is dynamic memory allocation in C++?

Dynamic memory allocation is the process of allocating memory during runtime using 'new' and deallocating it using 'delete'.

17. What is an inline function in C++?

An inline function is a function where the compiler replaces the function call with the actual code of the function to reduce overhead.

18. What is the default access specifier for class members in C++?

The default access specifier for class members is 'private'.

19. What are virtual functions in C++?

Virtual functions allow the derived class to override the base class function, enabling runtime polymorphism.

20. What is a pure virtual function in C++?

A pure virtual function is a function with no definition in the base class and must be overridden in derived classes, making the base class abstract.

21. What is a namespace in C++?

A namespace is a declarative region that provides scope to the identifiers (variables, functions) inside it, preventing name conflicts.

22. What is the significance of the 'main()' function in C++?

The 'main()' function is the entry point of any C++ program; execution starts from this function.

23. What is a copy constructor in C++?

A copy constructor is a special constructor used to create a new object as a copy of an existing object.

24. What is operator overloading in C++?

Operator overloading allows C++ operators to be redefined and used for user-defined types like classes.

25. What is the difference between 'new' and 'malloc()' in C++?

'new' is a C++ operator that allocates memory and calls the constructor, while 'malloc()' is a C function that only allocates memory without calling constructors.

26. What is 'static' keyword in C++?

The 'static' keyword can be used with variables and functions to retain their value between function calls or to make class members shared among all objects.

27. What is the difference between pass-by-value and pass-by-reference in C++?

In pass-by-value, a copy of the variable is passed to the function, whereas in pass-by-reference, the actual variable is passed, allowing modification.

28. What is a virtual destructor in C++?

A virtual destructor ensures that when a base class pointer points to a derived class object, the correct destructor is called, avoiding resource leaks.

29. What is type casting in C++?

Type casting is the conversion of one data type to another, either implicitly or explicitly using casting operators like 'static_cast', 'dynamic_cast', 'const_cast', and 'reinterpret_cast'.

30. What is the difference between '==' and '=' in C++?

'==' is the comparison operator that checks equality, while '=' is the assignment operator that assigns a

value to a variable.

31. What is a template in C++?

A template is a feature in C++ that allows functions and classes to operate with generic types, making them type-independent.

32. What is the difference between function overloading and function overriding in C++?

Function overloading is defining multiple functions with the same name but different parameters, while function overriding occurs when a derived class provides its own implementation of a base class function.

33. What is the use of 'const' keyword in C++?

The 'const' keyword is used to declare variables, pointers, or function arguments as constant, meaning their value cannot be modified after initialization.

34. What is the difference between shallow copy and deep copy in C++?

Shallow copy duplicates the object's memory addresses (pointers), while deep copy duplicates both the object and the memory it points to, preventing shared references.

35. What is the difference between 'public', 'private', and 'protected' access specifiers in C++?

- 'public': Members are accessible from outside the class.
- 'private': Members are accessible only within the class.
- 'protected': Members are accessible within the class and derived classes.

36. What are manipulators in C++?

Manipulators are functions used to modify the input/output stream properties, like 'endl' for a new line and 'setw' for setting the width.

37. What is an abstract class in C++?

An abstract class is a class that cannot be instantiated and contains at least one pure virtual function.

38. What is the difference between 'break' and 'continue' statements in C++?

'break' exits the loop entirely, while 'continue' skips the current iteration and proceeds with the next iteration of the loop.

39. What is recursion in C++?

Recursion is a process where a function calls itself directly or indirectly, typically used for problems that can be broken down into smaller, similar subproblems.

40. What is the use of 'enum' in C++?

'enum' (enumeration) is a user-defined data type that assigns names to integral constants, improving code readability.

41. What is a function prototype in C++?

A function prototype declares a function's return type, name, and parameters to the compiler before its actual definition.

42. What is 'sizeof' operator in C++?

The 'sizeof' operator returns the size, in bytes, of a variable or data type.

43. What is the difference between pre-increment ('++i') and post-increment ('i++') in C++?

Pre-increment increases the value before using it, while post-increment uses the value first and then increases it.

44. What is the use of 'friend' class in C++?

A 'friend' class can access private and protected members of another class in which it is declared as a

friend.

45. What is exception handling in C++?

Exception handling is a mechanism to handle runtime errors using 'try', 'catch', and 'throw' blocks.

46. What is the use of 'goto' statement in C++?

The 'goto' statement is used for unconditional jumps to a labeled part of the program, but its use is generally discouraged due to readability concerns.

47. What is a null pointer in C++?

A null pointer is a pointer that does not point to any object or function, typically represented by the constant 'nullptr'.

48. What is the use of 'typeid' operator in C++?

The 'typeid' operator is used to determine the type of an object at runtime, often used in conjunction with RTTI (Run-Time Type Information).

49. What is meant by binding in C++?

Binding refers to the process of associating a function call with a function definition. It can be either static (early) or dynamic (late) binding.

50. What is the difference between 'exit()' and 'return' in C++?

'exit()' terminates the program immediately, while 'return' exits from the current function, passing control back to the caller.

~> important C++ blanks (fill-in-the-blanks) questions.

1. The basic building block of a C++ program is a _____.

- Answer: function

2. A function must have a return type, the most common one is _____ for functions that do not return any value.

- Answer: 'void'

3. The keyword used to define a class in C++ is _____.

- Answer: 'class'

4. The _____ operator is used to allocate memory dynamically in C++.

- Answer: 'new'

5. The process of binding together code and data in a single unit is called _____.

- Answer: encapsulation

6. A special function that is automatically called when an object is created is called a _____.

- Answer: constructor

7. A pointer stores the _____ of a variable.

- Answer: address

8. The operator used to access members of a class through a pointer is _____.

- Answer: '->' (arrow operator)

9. When a class inherits members of another class, the _____ keyword is used.

- Answer: 'public' (or 'protected', 'private', depending on access control)

10. The ability of different objects to respond to the same function call in different ways is called _____.

- Answer: polymorphism

11. The _____ keyword is used to prevent inheritance of a class.

- Answer: 'final'

12. An array of characters that ends with a null character "\0" is called a _____.

- Answer: string

13. In C++, the _____ operator is used to release dynamically allocated memory.

- Answer: 'delete'

14. _____ are user-defined data types that hold multiple values of different types.

- Answer: structures or 'struct'

15. A function defined inside a class is by default a _____ function.

- Answer: inline

16. A member function that does not modify any data members of a class should be declared as _____.

- Answer: 'const'

17. The _____ function in C++ is called when an object is destroyed or goes out of scope.

- Answer: destructor

18. The _____ access specifier allows members of a class to be accessed only from within the same class.

- Answer: 'private'

19. A class is a blueprint for creating _____.

- Answer: objects

20. The _____ operator is used to get the reference of a variable.

- Answer: '&' (address-of operator)

21. In C++, the _____ keyword is used to inherit properties from another class.

- Answer: 'class' (or 'struct', depending on the context)

22. A function that is declared with the same name but different arguments is said to be _____.

- Answer: overloaded (function overloading)

23. The _____ loop is guaranteed to execute at least once.

- Answer: 'do-while'

24. The standard input stream in C++ is represented by _____.

- Answer: 'cin'

25. The _____ keyword is used to stop the execution of a loop.

- Answer: 'break'

26. To define a constant value in C++ that cannot be changed, the _____ keyword is used.

- Answer: 'const'

27. A function that calls itself is known as a _____ function.

- Answer: recursive
28. The _____ directive is used to include header files in C++.
- Answer: '#include'
29. _____ is a special kind of constructor that copies values from one object to another.
- Answer: Copy constructor
30. The _____ operator is used to access the elements of an array.
- Answer: subscript operator ('[]')
31. When the derived class has multiple base classes, it is called _____ inheritance.
- Answer: multiple
32. In C++, _____ is the keyword used to handle exceptions.
- Answer: 'try'
33. The _____ keyword is used to ensure that a block of code is always executed, regardless of whether an exception is thrown.
- Answer: 'finally' (in some languages), but in C++, it's ***'catch'*** after 'try' for exception handling.
34. The _____ operator is used to test if two objects are equal.
- Answer: equality operator ('==')
35. The _____ keyword is used to define a function that can be overridden in a derived class.
- Answer: 'virtual'

true or false :

1. C++ is a procedure-oriented programming language.
Answer: False (C++ is primarily an object-oriented programming language, although it supports procedure-oriented programming.)
2. In C++, the keyword 'class' is used to define a class.
Answer: True
3. C++ supports multiple inheritance.
Answer: True
4. The 'new' keyword is used to allocate memory dynamically in C++.
Answer: True
5. : C++ does not support operator overloading.
Answer: False (C++ supports operator overloading.)
6. : A constructor can have a return type in C++.
Answer: False (Constructors do not have a return type.)
7. : C++ allows the use of templates.
Answer: True
8. In C++, every function must have a return type, including 'void' functions.
Answer: True
9. C++ has garbage collection built into the language.

Answer: False (C++ does not have automatic garbage collection; it requires manual memory management.)

10. A virtual function in C++ can be declared in a class but cannot be overridden in a derived class.

Answer: False (Virtual functions can be overridden in derived classes.)

~>Additional information:

C++ is an object oriented programming language.

C++ is developed by Bjarne Stroustrup at AT&T Bell Laboratories in 1980's

There are $32 + 31 = 63$ keywords in C++.

Nesting of member functions: A member function can be called by using its name inside another member function of the same class is known as nesting of member functions.

Nested function : A function that include one or more function inside of it.

Copy Constructor : A copy constructor is a constructor which is used to create a new object from an existing object.

Containership : one class contain the object of another class.

sign name's :

'>>' is known as 'extraction operator'

'<<' is known as 'insertion operator'

'::' is known as 'Scope resolution operator '

'.' is known as 'Dot operator '

('~) is known as 'tilde'

('?:) is known as 'ternary operator'

full forms :

CAM=computer-aided manufacturing

CAD=computer-aided design

GUI=Graphical User Interface

CIN=Console Input

COU=Console output

UDF=User defined functions

SETW=Set width

ENDL=End line

ARGC=Argument Count

ARGV=Argument vector(array)

MIL=Member Initialization List

RTTI=Run Time Type Identification

