

Introduction to CPP Programming

Que.1. What is meant by IDE

[Marks :(5)]

Briefly describe the C++ IDE and its important features

Ans. An integrated development environment (IDE) is a software application that provides comprehensive facilities to computer programmers for software development. An IDE normally consists of a source code editor, build automation tools, and a debugger. Most modern IDEs have intelligent code completion.

Que.2. What is a literal?

[Marks :(5)]

List and explain the different types of literals

Ans. Literals (often referred to as constants) are data items that never change their value during the execution of the program. The following types of literals are available in C++.

Integer-Constants

Character-constants

Floating-constants

Strings-constants

Integer Constants

Integer constants are whole number without any fractional part. C++ allows three types of integer constants.

Decimal integer constants : It consists of sequence of digits and should not begin with 0 (zero). For example 124, - 179, +108.

Octal integer constants: It consists of sequence of digits starting with 0 (zero). For example. 014, 012.

Hexadecimal integer constant: It consists of sequence of digits preceded by ox or OX.

Character constants

A character constant in C++ must contain one or more characters and must be enclosed in single quotation marks. For example 'A', '9', etc. C++ allows nongraphic characters which cannot be typed directly from keyboard, e.g., backspace, tab, carriage return etc. These characters can be represented by using an escape sequence. An escape sequence represents a single character.

Floating constants

They are also called real constants. They are numbers having fractional parts. They may be written in fractional form or exponent form. A real constant in fractional form consists of signed or unsigned digits including a decimal point between digits. For example 3.0, -17.0, -0.627 etc.

String Literals

A sequence of character enclosed within double quotes is called a string literal. String literal is by default (automatically) added with a special character '\0' which denotes the end of the string. Therefore the size of the string is increased by one character. For example "COMPUTER" will be represented as "COMPUTER\0" in the memory and its size is 9 characters.

Que.3. a.What is an identifier?

[Marks : (5)]

b.What are to be followed to construct an identifier?

Ans. Symbolic names can be used in C++ for various data items used by a programmer in his program. A symbolic name is generally known as an identifier. The identifier is a sequence of characters taken from C++ character set. The rule for the formation of an identifier are:

An identifier can consist of alphabets, digits and/or underscores.

It must not start with a digit

C++ is case sensitive that is upper case and lower case letters are considered different from each other.

It should not be a reserved word.

Que.4. a.Define tokens in C++

[Marks : (5)]

b Explain any four tokens in C++ with example

Ans. A token is a group of characters that logically belong together. The programmer can write a program by using tokens. C++ uses the following types of tokens.
Keywords, Identifiers, Literals, Punctuators, Operators.

Que.5. Explain the different types of literals with example?

[Marks : (3)]

Ans. Constants refer to fixed values that the program may not alter and they are called literals. Constants can be of any of the basic data types and can be divided into Integer Numerals, Floating-Point Numerals, Characters, Strings and Boolean Values.

Que.6. i.What are tokens?

[Marks : (3)]

ii.List the different types of tokens in C++

Ans. A token is the smallest element of a C++ program that is meaningful to the compiler. The C++ parser recognizes these kinds of tokens: identifiers, keywords, literals, operators, punctuators, and other separators.

Que.7. List the rules for constructing an identifier

[Marks : (3)]

Ans.

An Identifier can only have alphanumeric characters(a-z , A-Z , 0-9) and underscore(_).

The first character of an identifier can only contain alphabet(a-z , A-Z) or underscore (_).

Identifiers are also case sensitive in C. For example name and Name are two different identifiers in C.

Keywords are not allowed to be used as Identifiers.

No special characters, such as semicolon, period, whitespaces, slash or comma are permitted to be used in or as Identifier.

Que.8. What are the escape sequence characters used to represent? [Marks :(2)]

i) null character ii) form feed

Ans. i) '\0' ii. '\f'

Que.9. What is a character constant [Marks :(2)]

Ans. Character constants are the constants that is enclosed in Single Quotes

Que.10. What are the different type of characters in C++ character set? [Marks :(2)]

Ans. letters, digits, special characters, white space, other characters

Que.11. What is the meaning of the following escape sequence characters? [Marks :(2)]

a.\n b.\a c. \b d.\t

Ans. a. new line b. audible alert c. back space d. horizontal tab

Que.12. Identify the literal types [Marks :(2)]

a."raman"

b. 125

c.'x'

d.45.0

Ans. a.string b. integer c. character d.floating point

Que.13. Match the following [Marks :(2)]

A	B
a.Back space	i .\\
b.New line	ii.\a
c.Back slash	iii.\n
d.Audible alert	iv.\b

Ans. a-iv b-iii c-i d-ii

Que.14. Match the following [Marks :(2)]

A	B
a.Character literal	i. +5.7532
b.String literal	ii.-75
c.integer literal	ii."A"

d.Floating point literal

iv.'A'

Ans. a-iv b-iii c--ii d-i

Que.15. Match the following

[Marks :(2)]

A

B

a.Identifier

i.int

b.Literal

ii.name

c.Operator

iii."hello"

d.Keyword

iv.+

Ans. a-ii,b-iii,c-iv d-i

Que.16. What is a string constant?

[Marks :(2)]

Ans. String literals are enclosed in double quotes

Que.17. What is an operator?

[Marks :(2)]

Ans. An operator is a symbol that tells the compiler to perform specific mathematical or logical manipulations

Que.18. What is the difference between 'A' and "A"?

[Marks :(2)]

Ans. 'A' Character Literal , "A" string literal

Que.19. What is an escape sequence?

[Marks :(2)]

Ans. Escape sequences are special characters used in control string to modify the format of an output. These specific characters are translated into another character or a sequence of characters that may be difficult to represent directly. ... An escape sequence consists of two or more characters.

Que.20. What are the two ways of representing a floating point literal?

[Marks :(2)]

Ans. A floating-point literal has an integer part, a decimal point, a fractional part, and an exponent part. floating point literals either in decimal form or exponential form.

Que.21. Define literal?

[Marks :(2)]

Ans. Constants refer to fixed values that the program may not alter and they are called literals. Constants can be of any of the basic data types and can be divided into Integer Numerals, Floating-Point Numerals, Characters, Strings and Boolean Values.

Que.22. What is an identifier

[Marks :(2)]

Ans. An identifier is a name that is assigned by the user for a program element such as variable, type, template, class, function or namespace

Que.23. Define keyword

[Marks :(2)]

Ans. Keywords are those words whose meaning is already defined by Compiler. These keywords cannot be used as an identifier. Note that keywords are the collection of reserved words and predefined identifiers.

Que.24. Define a token **[Marks :(2)]**

Ans. A token is the smallest element of a C++ program that is meaningful to the compiler. The C++ parser recognizes these kinds of tokens: identifiers, keywords, literals, operators, punctuators, and other separators. A stream of these tokens makes up a translation unit.

Que.25. Identify the odd one out **[Marks :(1)]**

a. void b. name c. int d. if

Ans. b.name

Que.26. The set of valid characters in a language which is the fundamental units of that language is known as... **[Marks :(1)]**

Ans. Character set

Que.27. 'A' is a ... constant where as "A" is a ...Constant **[Marks :(1)]**

Ans. Single character, String

Que.28. Keywords can be used as an identifier. True or False **[Marks :(1)]**

Ans. False

Que.29. An Identifier can contain a digit as its first character. True or false **[Marks :(1)]**

Ans. False

Que.30. What is the extension of a C++ program file? **[Marks :(1)]**

Ans. Cpp

Que.31. Which escape sequences represent new line character and null character **[Marks :(1)]**

Ans. '\n' and '\0'

Que.32. A label in C++ is... **[Marks :(1)]**

Ans. Identifier

Que.33. The data on which the operator operates are called **[Marks :(1)]**

Ans. Operands

Que.34.is a symbol that tells the compiler about a specific operations **[Marks :(1)]**

Ans. Operator

Que.35. A special symbols that have syntactic semantic meaning to the compiler is called

[Marks :(1)]

Ans. Punctuators

Que.36. A sequence of one or more characters enclosed within double quotes is called...

[Marks :(1)]

Ans. String constant

Que.37. The non-graphic symbols can be represented using

[Marks :(1)]

Ans. escape sequences

Que.38. The ASCII value 'A' is...

[Marks :(1)]

Ans. 65

Que.39. A single character enclosed in single quotes is .. literal

[Marks :(1)]

Ans. Character

Que.40. A real constant in eponential form consists of two parts ... and ...

[Marks :(1)]

Ans. mantissa and exponent

Que.41. Floating point can be written in ... form or... form

[Marks :(1)]

Ans. fractional form or exponential form

Que.42. Floating point literal are numbes having fractional part. True or False

[Marks :(1)]

Ans. True

Que.43. Literals are also called constants. True or False

[Marks :(1)]

Ans. True

Que.44. The idenfieres used to refer a set of statements are called...

[Marks :(1)]

Ans. Function Names

Que.45. Identifiers assigned to statments are called...

[Marks :(1)]

Ans. Labels

Que.46. Identifiers of memory locations are called

[Marks :(1)]

Ans. Variables

Que.47. are the user defined words that are used to name the different program elements

[Marks :(1)]

Ans. Identifiers

Que.48. The token that cconvey a specific meaning to the language compiler are called..

[Marks :(1)]

Ans. Keyword

Que.49. Tokens are also known as...

[Marks :(1)]

Ans. Lexical units

Que.50.are the fundamental building blocks of a program

[Marks :(1)]

Ans. Tokens

