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## Chapter 5 – Introduction to C++ Programming

1. Fundamental building blocks of the program is called \_\_\_\_\_. [ March 2020, Score 1 ]

Ans. Tokens

2. Write the rules followed for naming an identifier. [ March 2020, Score 2 ]

Ans.

1. Names can contain letters, digits and underscores.
2. Names must begin with a letter or an underscore ( \_ )

3. Names are case sensitive ( myVar and myvar are different variables)
4. Names cannot contain whitespaces or special characters like !, #, %, etc.
5. Reserved words (like C++ keywords, such as int ) cannot be used as names.

3. What are Literals? Explain its types?

[ March 2020, Score 3 ]

**Ans.** Literals to represent data items that never change their value during the program run.

Literals can be divided into four types:

1. Integer literals – consists only by digits without fractional part
2. Floating point literals - also known as real constants are numbers having fractional parts.

These can be written in one of the two forms called fractional form or exponential form.

3. Character literals - character enclosed in single quotes that never changes its value during the program run

4. String literals - A sequence of one or more characters enclosed within a pair of double quotes is called string constant.

4. Write short note on character set of C++

[ July 2019, Score 2 ]

**Ans.** It is a set of valid symbols, called characters set. It is a set of valid symbols, called characters that a language can recognize. A character represents any letter, digit, or any other symbol.

The character set of C++ is categorized as follows:

(i) Letters: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z

(ii) Digits: 0 1 2 3 4 5 6 7 8 9

(iii) Special characters : + - \* / ^ \ ( ) [ ] { } = < > . ' " \$ , ; : % ! & ? \_ (underscore) # @

(iv) White spaces: Space bar (Blank space), Horizontal Tab (à ), Carriage Return (↵ ) , Newline, Form feed

(v) Other characters : C++ can process any of the 256 ASCII characters as data or as literals.

5. Explain about any three types of tokens used in C ++

[ July 2019, Score 3 ]

**Ans.** 1. Keywords : The words (tokens) that convey a specific meaning to the language compiler

2. Identifiers : Identifiers are the user-defined words that are used to name different program elements such as memory locations, statements, functions, objects, classes etc.

3. Literals : Literals to represent data items that never change their value during the program run

4. Punctuators : Special symbols that have syntactic or semantic meaning to the compiler.

5. Operators : Symbol that tells the compiler about a specific operation

6. Find the invalid identifier names from the following:

A1, d-w, 999, qwA, Z\$, AaAl, 8c

[ March 2019, Score 2 ]

**Ans.** d-w, 999, Z\$, 8c

7. Write a short note on C++ character set.

[ March 2019, Score 3 ]

**Ans.** It is a set of valid symbols, called characters set. It is a set of valid symbols, called characters that a language can recognize. A character represents any letter, digit, or any other symbol.

The character set of C++ is categorized as follows:

(i) Letters: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z

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(iv) White spaces: Space bar (Blank space), Horizontal Tab (à), Carriage Return (↵), Newline, Form feed

(v) Other characters : C++ can process any of the 256 ASCII characters as data or as literals.

8. What is meant by tokens? Name the tokens available in C++

[ July 2018, Score 2 ]

**Ans.** Tokens are the fundamental building blocks of the program

1. Keywords
2. Identifiers
3. Literals
4. Punctuators
5. Operators

9. What is the use of keyword 'const'? Give an example

[ July 2018, Score 2 ]

**Ans.** 'const' keyword is used to declare a constant variable which will never change its value.

E.g. const float pi=3.14;

10. What are the different types of characters in the character set of C++ [ March 2018, Score 2 ]

**Ans.** The character set of C++ is categorized as follows:

(i) Letters: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z

(ii) Digits: 0 1 2 3 4 5 6 7 8 9

(iii) Special characters : + - \* / ^ \ ( ) [ ] { } = < > . ' " \$ , ; : % ! & ? \_ (underscore) # @

(iv) White spaces: Space bar (Blank space), Horizontal Tab (à), Carriage Return (↵), Newline, Form feed

(v) Other characters : C++ can process any of the 256 ASCII characters as data or as literals.

11. Identify and classify tokens in the following C++ statement

```
cout<<"The Missile Man";
```

[ July 2017, Score 2]

**Ans.** cout – keyword

<< - operator

“ - punctuator

; - punctuator

12. Identify the invalid literals from the following and write a reason for each :

a) 2E3.5

b) “9”

c) ‘hello’

d) 55450

[ March 2017, Score 2 ]

**Ans.** a and c are invalid.

2E3.5 contains a mixing of characters and integers hence invalid

‘hello’ enclosed in single quotes and contains more than one character hence invalid

13. Which of the following is a user defined name?

a) keyword

b) identifier

c) escape sequences

d) all of these

[ July 2016, Score 1 ]

**Ans.** b) identifier

14. identify whether the following are valid identifiers or not? If not give reason.

a) Break

b) Simple.interest

**Ans.** Break - Valid

Simple.interest – Invalid identifier ( special characters are not allowed in identifier name)

15. Some of the literals in C++ are given below. How do they differ?

(5,'5', 5.0,"5")

[ March 2016, Score 2 ]

**Ans.** 5 – integer literal

'5' - character literal

5.0 – floating point literal

“5” - string literal

16. The following are some invalid identifiers. Specify its reason.

a) Sum of digits

b) 1 year

c) First.jan

d) For

[ July 2015, Score 1 ]

**Ans.** a,b,c are invalid

Sum of digits contains white spaces

1 year starts with digit

First.jan contains special character

17. Mention the purpose of tokens in C++. Write names of any four tokens in C++

[ March 2015, Score 2 ]

**Ans.** Tokens are the fundamental building blocks of the program.

1. Keywords

2. Identifiers

3. Literals

4. Punctuators

5. Operators

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## Chapter 6 – Data types and operators

1. Write the logical operators of C++ with its symbols.

[ March 2020, Score 2 ]

**Ans.** The logical operators are && (logical AND), || (logical OR) and ! (logical NOT).

2. What is type promotion in C++ ?

[ March 2020, Score 2 ]