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Chapter 5: Introduction to C++ Programming

Character set: The fundamental unit of C++ language. The character set of C++ is categorized as (i) Letters (A – Z, a – z), (ii) Digits (0 – 9), (iii) Special characters (iv)White spaces.

Tokens: The fundamental building blocks of the program. C++ has five types of tokens – Keywords, Identifiers, Literals, Punctuators and Operators.

Keywords: The words (tokens) that convey a specific meaning to the language compiler. These are also known as reserved words.

Identifiers: These are the user-defined words used to name different program elements such as memory locations, statements, functions, objects, classes etc. The identifiers of memory locations are called *variables*. The identifiers assigned to statements are called *labels*. The identifiers used to refer a set of statements are called *function names*.

Rules for naming identifiers: An arbitrary long sequence of letters, digits and underscores. The first character must be a letter or underscore (_). White space and special characters are not allowed. Keywords cannot be used. Upper and lower case letters are treated differently.

Literals: Data items that never change their value during the program run. They are often referred to as constants. Literals are of four types – Integer literals, Floating point literals, Character literals and String literals.

Integer literals: The tokens constituted only by digits. They are whole numbers without fractional part. Eg: 13. -76

Floating point literals: Also known as real constants. These are numbers having fractional parts. These can be written in one of the two forms –fractional form or exponential form. Eg: 4.35, 2.5e6, -5E-3 etc.

Character literal: A single character enclosed in single quotes. Eg: 'a', '9', '+' etc.

Escape sequences: These special character constants that represent non-graphic symbols. It consists of a backslash (\) followed by one or more specific characters.

String constant: A sequence of one or more characters enclosed within a pair of double quotes is called. Eg: "Hello friends", "123" etc.

Punctuators: Some special symbols that have syntactic or semantic meaning to the compiler.

Operator: A symbol that tells the compiler about a specific operation. They are the tokens that trigger some kind of operation. The operator is applied on a set of data called **operands**.

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