# Operators in C++

## Operators in c++

Based on Function

1. Airthmetic Operators
2. Relational Operators
3. Logical Operators
4. Bitwis Operators
5. Assignment operators
6. Increment & decrement
7. Conditional Operators
8. Special/miscellaneous

Based on operands

1. Unary Operators
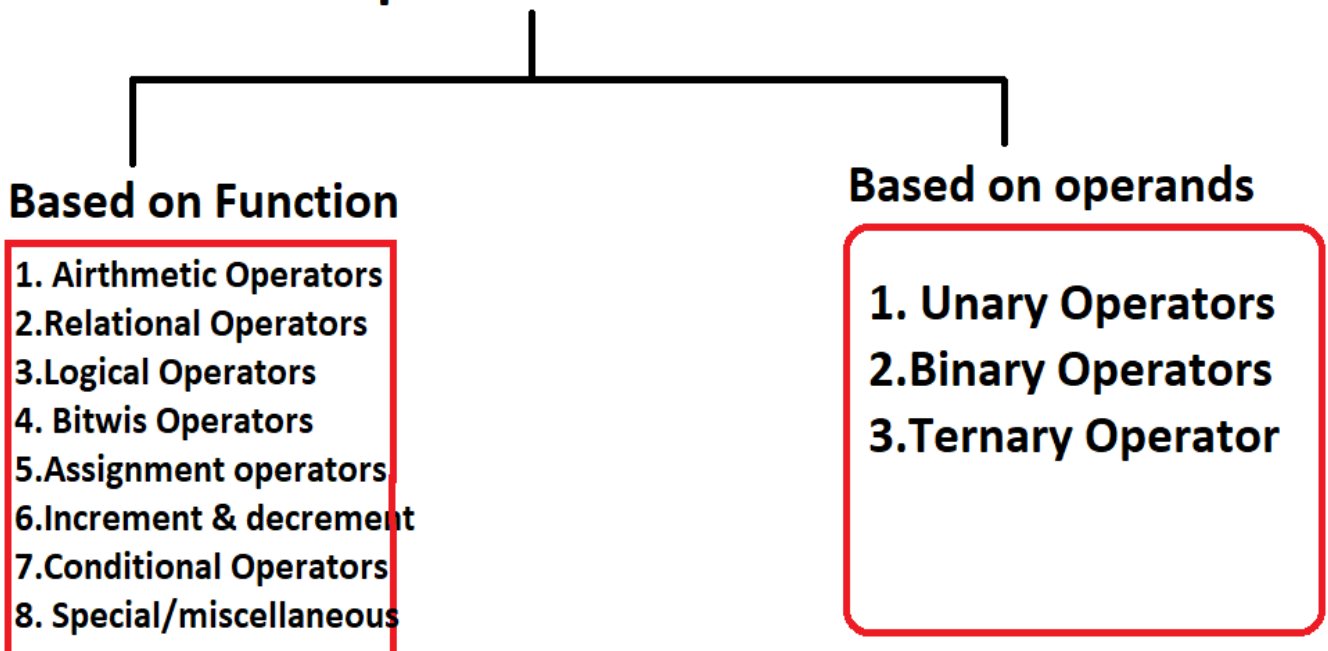2. Binary Operators
3. Ternary Operator

## ➤ Based on Operands

There are three categories of operators in C++, these are-

## 1. Unary Operators
## 2. Binary Operators
## 3. Ternary Operators

## Operators in C

| Operator | Type |
|---|---|
| + +, - - | Unary operator |
| +, -, *, /, % | Arithmetic operator |
| <, <=, >, >=, ==, != | Relational operator |
| &&, \|\|, ! | Logical operator |
| &, \|, <<, >>, ~, ^ | Bitwise operator |
| =, +=, -=, *=, /=, %= | Assignment operator |
| ?: | Ternary or conditional operator |

Unary operator → + +, - -

Binary operator → +, -, *, /, %  ...  =, +=, -=, *=, /=, %=

Ternary operator → ?:

### 1. Unary Operators

The operators that operate a single operand to form an expression are known as unary operator. The operators like + + (increment) operator,-- (decrement) operator etc. are the part of unary operators.

**Ex → ++a, b--,….etc**

### 2. Binary Operators

The operators that operate two or more operands are known as binary operators. The operators like + , - ,*,/,% etc are binary operators.

**Ex →  a+b , a-b ,a*b , a/b etc**

### 3. Ternary Operators

The operator that operates minimum or maximum three operands is known as ternary operator. there is only one ternary operator available in C++. The operator ?: is the only available ternary operator i.e used as a substitute of if-else statement.

**Ex → a>b?a:b**

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| | |
|---|---|
| << | insertion operator |
| >> | extraction operator |
| : : | scope resolution operator |
| : :* | pointer to member declarator |
| * | pointer to member operator |
| .* | pointer to member operator |
| Delete | memory release operator |
| Endl | line feed operator |
| New | memory allocation operator |
| Setw | field width operator |

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