

**C Operators**

An operator causes specific mathematical or logical manipulation to be performed. Lets learn operators in C include library.

Arithmetic

Assignment

Relational

Increment and Decrement

Bit

Logical

**Arithmetic Operators**

Arithmetic operator in C include addition (+), Subtraction (-), multiplication (\*), division (/), remainder (%),unary plus(+) and unary minus(-).

A simple arithmetic expression consists of an arithmetic operator connecting two arithmetic operands.

4 + 5

99.8 + 4.6

34 - .78

**Rules:**

If all operands are integers, the result is an integers.

If any operand is floating point or double precision value, the result is a double precision number.

**Assignment operators**

**Variable = Expression**

**x= 10**

**x = y ( x is assigning the value on its right side variable y. y is holding the value 10 from x)**

**Ex: x = x + 70**

 **x+ =70**

**Relational operators:**

**C uses relational and equality operators to test or compare the values between two operands**

**If the condition is false the result is 0.**

**If the condition is true result is non- zero .**

**= is the assignment operator**

**== is used test for equality**

**Relational operators in C are**

**= assignment**

**== equality**

**> greater than**

**>= greater than or equal to**

**< less than**

**<= less than or equal to**

**!= not equal to**

***Increment and Decrement operators:***

***increment - add one***

***Decrement -subtract one***

***It can be added either before or after the value of the variable***

***If it appears in front of the variable it is called as prefix operator, the value it uses is before it is updated***

***++ a***

***++ Increment the variable***

***-- Decrement the variable***

***Bit Operators***

***Six operators used to perform bit manipulation, all operators requires two operands except – one’s complement.***

|  |  |
| --- | --- |
| ***Operator***  | ***Description*** |
|  ***&*** | ***AND*** |
|  ***I***  | ***OR*** |
| ***>>*** | ***Right shift*** |
| ***<<***  | ***Left shift*** |
|  ***-*** | ***One’s complement*** |

***Logical Operators***

***These operators are also called as Boolean operators as they return the value in True or False***

***Logical operators are used to combine two or more relations***

***False as 0***

***True as 1***

|  |  |
| --- | --- |
| **Operator** | **Description**  |
|  **!** | **NOT** |
|  **&&** | **AND** |
|  **II** | **OR** |