ASSIGNMENT:OPERATORS

1.Bitwise Operators: **Bitwise operators** are special **operator** set provided by '**C**. ' They are used in bit level **programming**. These **operators** are used to manipulate bits of an integer expression. Logical, shift and complement are three types of **bitwise operators**.

In C, the following 6 operators are bitwise operators (work at bit-level):

1. The **& (bitwise AND)** in C or C++ takes two numbers as operands and does AND on every bit of two numbers. The result of AND is 1 only if both bits are 1.
2. The **| (bitwise OR)** in C or C++ takes two numbers as operands and does OR on every bit of two numbers. The result of OR is 1 if any of the two bits is 1.
3. The **^ (bitwise XOR)** in C or C++ takes two numbers as operands and does XOR on every bit of two numbers. The result of XOR is 1 if the two bits are different.
4. The **<< (left shift)** in C or C++ takes two numbers, left shifts the bits of the first operand, the second operand decides the number of places to shift.
5. The **>> (right shift)** in C or C++ takes two numbers, right shifts the bits of the first operand, the second operand decides the number of places to shift.
6. The **~ (bitwise NOT)** in C or C++ takes one number and inverts all bits of it.

**Example:**

#include <stdio.h>

int main()

{

    char a = 5, b = 9;

    printf("a = %d, b = %d\n", a, b);

    printf("a&b = %d\n", a & b);

    printf("a|b = %d\n", a | b);

    printf("a^b = %d\n", a ^ b);

    printf("~a = %d\n", a = ~a);

    printf("b<<1 = %d\n", b << 1);

    printf("b>>1 = %d\n", b >> 1);

return 0;

}

**Output:**

a = 5, b = 9

a&b = 1

a|b = 13

a^b = 12

~a = 250

b<<1 = 18

b>>1 = 4

# 2. Conditional or Ternary Operator (?:) in C:

The conditional operator is kind of similar to the [if-else statement](https://www.geeksforgeeks.org/decision-making-c-c-else-nested-else/) as it does follow the same algorithm as of [if-else statement](https://www.geeksforgeeks.org/decision-making-c-c-else-nested-else/) but the conditional operator takes less space and helps to write the if-else statements in the shortest way possible.

**Syntax:**  
The conditional operator is of the form

variable = Expression1 ? Expression2 : Expression3

**Example:** Program to Store the greatest of the two Number:

#include <stdio.h>

int main()

{

    int n1 = 5, n2 = 10, max;

    max = (n1 > n2) ? n1:n2;

    printf("Largest number between"

           " %d and %d is %d. ",

           n1, n2, max);

 return 0;

}

**Output:**

Largest number between 5 and 10 is 10.