# Assignment Operator

An **operator** is a symbol that operates on a value to perform specific mathematical or logical computations. They form the foundation of any programming language. In C++, we have built-in operators to provide the required functionality.

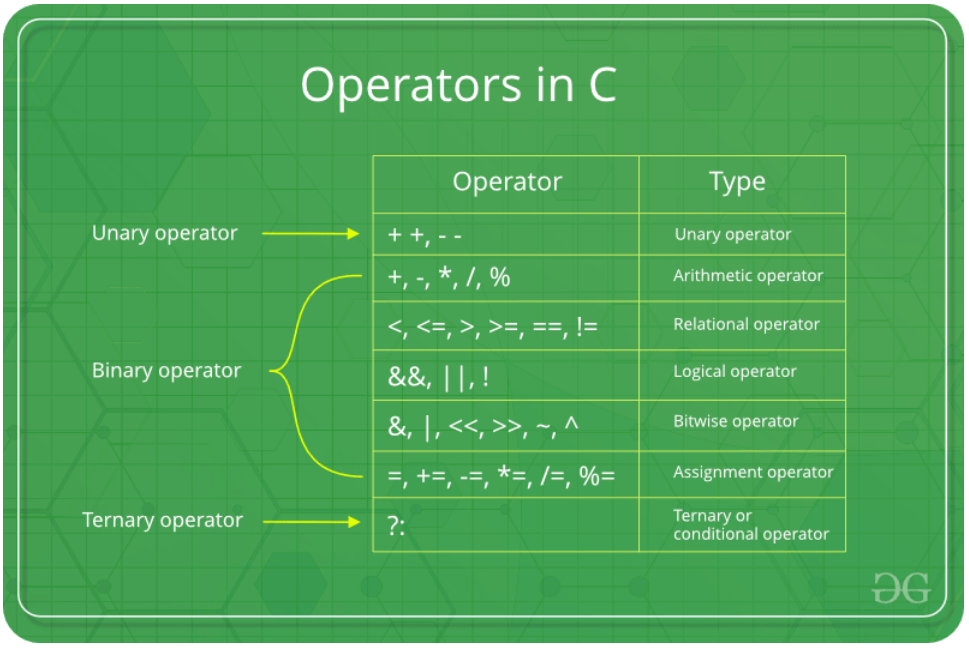
An operator operates the **operands**. For example,

```
int c = a + b;
```

Here, '+' is the addition operator. 'a' and 'b' are the operands that are being 'added'.

**Operators in C++ can be classified into 6 types:**

1. Arithmetic Operators
2. Relational Operators
3. Logical Operators
4. Bitwise Operators
5. **Assignment Operators**
6. Ternary or Conditional Operators




**Assignment Operators**

Assignment operators are used to assigning value to a variable. The left side operand of the assignment operator is a variable and right side operand of the assignment operator is a value. The value on the right side must be of the same data-type of the variable on the left side otherwise the compiler will raise an error.

Different types of assignment operators are shown below:

- **“=”**: This is the simplest assignment operator. This operator is used to assign the value on the right to the variable on the left. For example:

```
a = 10;
b = 20;
ch = 'y';
```

- **“+=”**: This operator is combination of ‘+’ and ‘=’ operators. This operator first adds the current value of the variable on left to the value on the right and then assigns the result to the variable on the left. Example:

```
(a += b) can be written as (a = a + b)
```

If initially value stored in a is 5. Then (a += 6) = 11.

- **“-=”**This operator is combination of ‘-‘ and ‘=’ operators. This operator first subtracts the current value of the variable on left from the value on the right and then assigns the result to the variable on the left. Example:

```
(a -= b) can be written as (a = a - b)
```

If initially value stored in a is 8. Then (a -= 6) = 2.

- **“*=”**This operator is combination of ‘*’ and ‘=’ operators. This operator first multiplies the current value of the variable on left to the value on the right and then assigns the result to the variable on the left. Example:

```
(a *= b) can be written as (a = a * b)
```

If initially value stored in a is 5. Then (a *= 6) = 30.

- **“/=”**This operator is combination of ‘/’ and ‘=’ operators. This operator first divides the current value of the variable on left by the value on the right and then assigns the result to the variable on the left. Example:

```
(a /= b) can be written as (a = a / b)
```

If initially value stored in a is 6. Then (a /= 2) = 3.

Below example illustrates the various Assignment Operators:

```
// C++ program to demonstrate
// working of Assignment operators
#include <iostream>
using namespace std;

int main()
{

    // Assigning value 10 to a
    // using "=" operator
    int a = 10;
    cout << "Value of a is "<<a<<"\n";

    // Assigning value by adding 10 to a
    // using "+=" operator
    a += 10;
    cout << "Value of a is "<<a<<"\n";

    // Assigning value by subtracting 10 from a
    // using "-=" operator
    a -= 10;
    cout << "Value of a is "<<a<<"\n";

    // Assigning value by multiplying 10 to a
    // using "*=" operator
    a *= 10;
    cout << "Value of a is "<<a<<"\n";

    // Assigning value by dividing 10 from a
    // using "/=" operator
    a /= 10;
    cout << "Value of a is "<<a<<"\n";
```

```
    return 0;
}
```

### Output

```
Value of a is 10
Value of a is 20
Value of a is 10
Value of a is 100
Value of a is 10
```