

Increment ++ and Decrement -- Operator as Prefix and Postfix

In this article, you will learn about the increment operator ++ and the decrement operator -- in detail with the help of examples.

In programming (Java, C, C++, JavaScript etc.), the increment operator ++ increases the value of a variable by 1. Similarly, the decrement operator -- decreases the value of a variable by 1.

```
a = 5

++a;      // a becomes 6

a++;     // a becomes 7

--a;     // a becomes 6

a--;     // a becomes 5
```

Simple enough till now. However, there is an important difference when these two operators are used as a prefix and a postfix.

++ and -- operator as prefix and postfix

- If you use the ++ operator as a prefix like: ++var, the value of var is incremented by 1; then it returns the value.
- If you use the ++ operator as a postfix like: var++, the original value of var is returned first; then var is incremented by 1.

The -- operator works in a similar way to the ++ operator except -- decreases the value by 1.

Let's see the use of `++` as prefixes and postfixes in C, C++, Java and JavaScript.

Example 1: C Programming

```
#include <stdio.h>
int main() {
    int var1 = 5, var2 = 5;

    // 5 is displayed
    // Then, var1 is increased to 6.
    printf("%d\n", var1++);

    // var2 is increased to 6
    // Then, it is displayed.
    printf("%d\n", ++var2);

    return 0;
}
```

Example 2: C++

```
#include <iostream>

using namespace std;

int main() {
    int var1 = 5, var2 = 5;

    // 5 is displayed
    // Then, var1 is increased to 6.
    cout << var1++ << endl;

    // var2 is increased to 6
```

```
// Then, it is displayed.  
cout << ++var2 << endl;  
  
return 0;  
}
```

Example 3: Java Programming

```
class Operator {  
    public static void main(String[] args) {  
        int var1 = 5, var2 = 5;  
  
        // 5 is displayed  
        // Then, var1 is increased to 6.  
        System.out.println(var1++);  
  
        // var2 is increased to 6  
        // Then, var2 is displayed  
        System.out.println(++var2);  
    }  
}
```

Example 4: JavaScript

```
let var1 = 5, var2 = 5;  
  
// 5 is displayed  
// Then, var1 is increased to 6  
console.log(var1++)  
  
// var2 is increased to 6  
// Then, var2 is displayed  
console.log(++var2)
```

The output of all these programs will be the same.

Output

5

6