

Mathematical Operators

The basic mathematical operators are the same as the ones available in most programming languages: addition (+), subtraction (-), division (/), multiplication (*) and modulus (%; this produces the remainder from integer division). Integer division truncates the result (it doesn't round). The modulus operator cannot be used with floating-point numbers.

C/C++ also introduces a shorthand notation to perform an operation and an assignment at the same time. This is denoted by an operator followed by an equal sign and is consistent with all the operators in the language (whenever it makes sense). For example, to add 4 to the variable **x** and assign **x** to the result, you say: **x += 4;**

This example shows the use of the mathematical operators:

```
//: MATHOPS.CPP-mathematical operators
#include <iostream.h>

// A macro to display a string and a value.
#define print(str, var) cout << str " = " << var << endl

void main() {
    int i, j, k;
    float u,v,w; // applies to doubles, too

    cout << "enter an integer: ";
    cin >> j;
    cout << "enter another integer: ";
    cin >> k;
    print("j",j); print("k",k);
    i = j + k; print("j + k",i);
    i = j - k; print("j - k",i);
    i = k / j; print("k / j",i);
    i = k * j; print("k * j",i);
    i = k % j; print("k % j",i);
    // the following only works with integers:
    j %= k; print("j %= k", j);

    cout << "enter a floating-point number: ";
    cin >> v;
    cout << "enter another floating-point number: ";
    cin >> w;
    print("v",v); print("w",w);
    u = v + w; print("v + w", u);
```

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C++ Inside & Out

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