| S7: Lunes 13 enero | • *Examen 1 en BlackBoard desde el martes!!*<br>• *Shortcuts (+=, -=, *=, /=, %=, ++, --)*<br>• *Relational operators (<, >, ==, >=, <=, !=)* |
|---|---|

## 3.7 Multiple and Combined Assignment

**CONCEPT:** Multiple assignment means to assign the same value to several variables with one statement.

C++ allows you to assign a value to multiple variables at once. If a program has several variables, such as `a`, `b`, `c`, and `d`, and each variable needs to be assigned a value, such as 12, the following statement may be constructed:

```
a = b = c = d = 12;
```

### Combined Assignment Operators

Quite often programs have assignment statements of the following form:

```
number = number + 1;
```

**Table 3-8** Assignment Statements that Change a Variable's Value (Assume x = 6)

| Statement | What It Does | Value of x After the Statement |
|---|---|---|
| `x = x + 4;` | Adds 4 to x | 10 |
| `x = x - 3;` | Subtracts 3 from x | 3 |
| `x = x * 10;` | Multiplies x by 10 | 60 |
| `x = x / 2;` | Divides x by 2 | 3 |
| `x = x % 4` | Makes x the remainder of x / 4 | 2 |

**Table 3-9** Combined Assignment Operators

| Operator | Example Usage | Equivalent To |
|---|---|---|
| += | `x += 5;` | `x = x + 5;` |
| -= | `y -= 2;` | `y = y - 2;` |
| *= | `z *= 10;` | `z = z * 10;` |
| /= | `a /= b;` | `a = a / b;` |
| %= | `c %= 3;` | `c = c % 3;` |

Here are three different ways to increment the value of the variable num by 1.

```
num = num + 1;
num += 1;
num++;
```

And here are three different ways to decrement it by 1:

```
num = num - 1;
num -= 1;
num--;
```

```
num = 4;
num++;      // now num has the value 5
++num;      // now num has the value 6
num--;      // now num has the value 5 again
--num;      // now num has the value 4 again
```

**Table 4-1** Relational Operators

| Relational Operators | Meaning |
|---|---|
| > | Greater than |
| < | Less than |
| >= | Greater than or equal to |
| <= | Less than or equal to |
| == | Equal to |
| != | Not equal to |