Fundamentals of Programming: Operators

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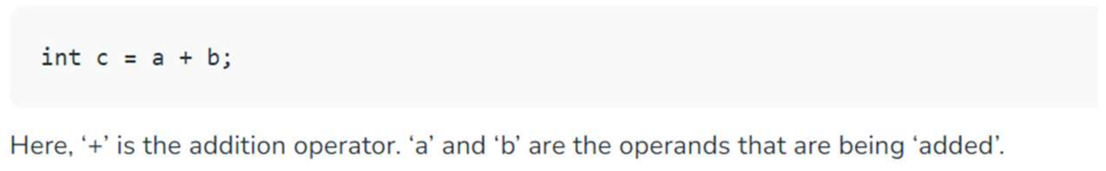
Agenda

- Operators
- Arithmetic Operators
- Incremental or Decremental Operators
- Relational Operators
- Logical Operators
- Bitwise Operators
- Shift Operator
- Assignment Operator
- Ternary Operator

Introduction

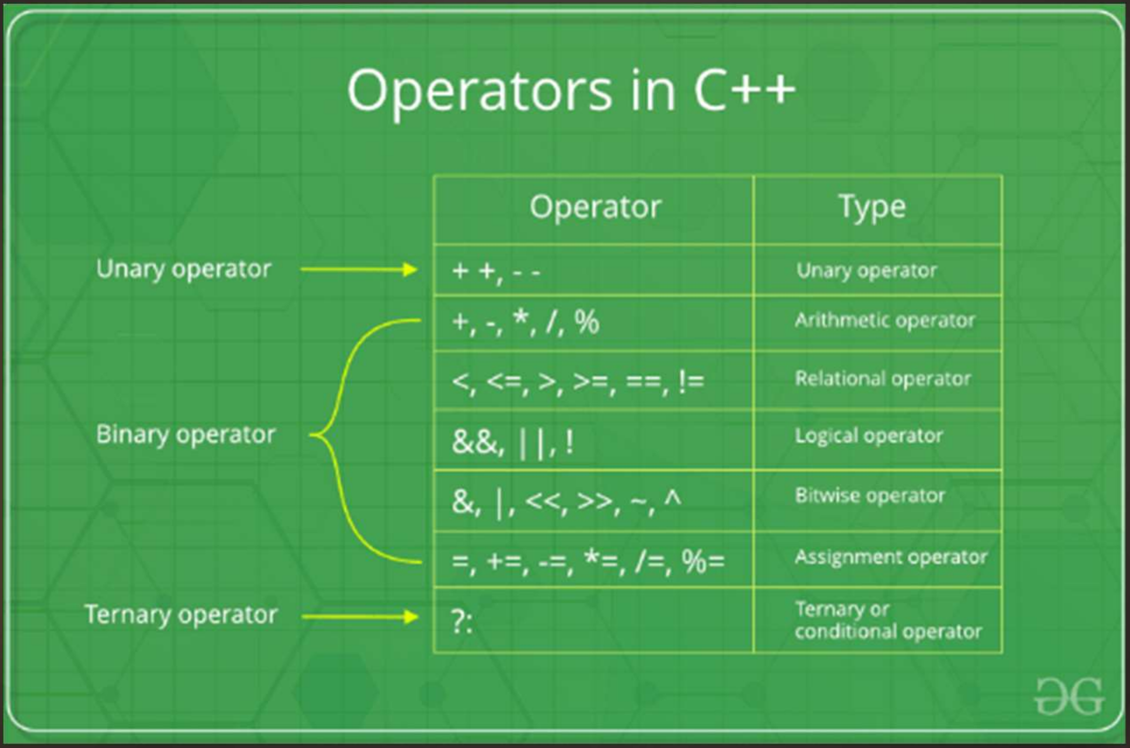
- Operators perform operations on operands
- Operands are variables on which operation is performed



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

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

Introduction


Unary operator
Binary operator
Ternary operator
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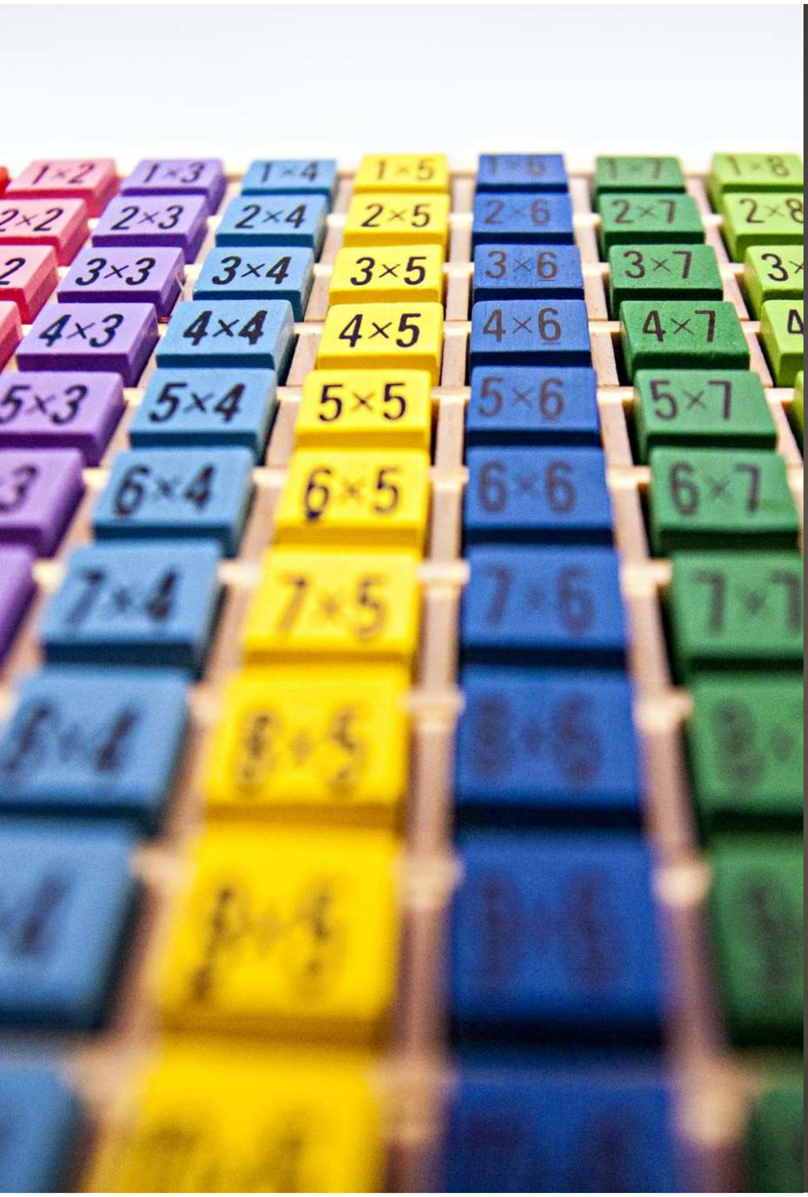
Operators in C++

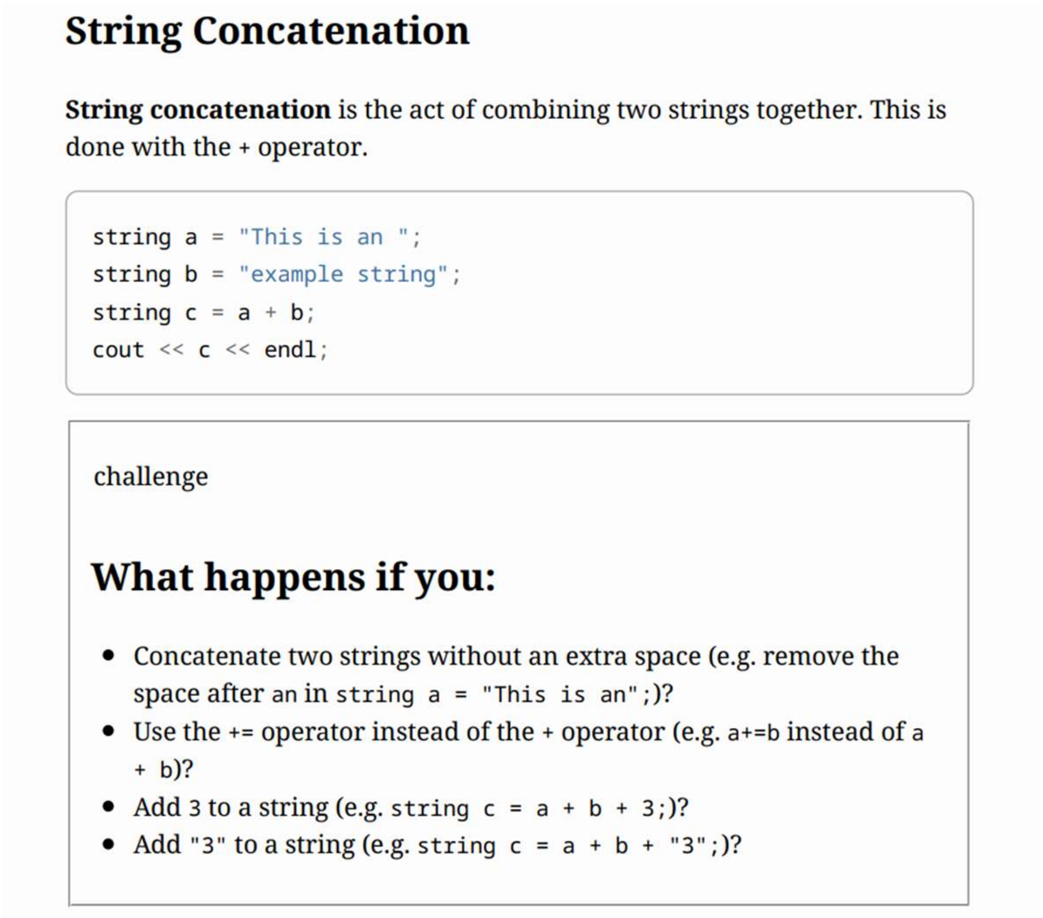
Operator	Type
+ +, - -	Unary operator
+, -, *, /, %	Arithmetic operator
<, <=, >, >=, ==, !=	Relational operator
&&, | |, !	Logical operator
&, |, <<, >>, ~, ^	Bitwise operator
=, +=, -=, *=, /=, %=	Assignment operator
?:	Ternary or conditional operator



Arithmetic Operators

- Perform arithmetic or mathematical operations on the operands
- Arithmetic operators can be classified into two categories:
  - Unary {Increment operator(++), Decrement Operator (--)}
  - Binary(+, -, *, /, %)

String Concatenation



String Concatenation

String concatenation is the act of combining two strings together. This is done with the + operator.

```
string a = "This is an ";
string b = "example string";
string c = a + b;
cout << c << endl;
```

challenge

What happens if you:

- Concatenate two strings without an extra space (e.g. remove the space after `an` in `string a = "This is an";`)?
- Use the `+=` operator instead of the `+` operator (e.g. `a+=b` instead of `a + b`)?
- Add `3` to a string (e.g. `string c = a + b + 3;`)?
- Add `"3"` to a string (e.g. `string c = a + b + "3";`)?