#include <iostream>  
using namespace std;  
  
int main() {  
  cout << "Hello World!";  
  return 0;  
}

**Line 1:** #include <iostream> is a **header file library** that lets us work with input and output objects, such as cout (used in line 5). Header files add functionality to C++ programs.

**Line 2:** using namespace std means that we can use names for objects and variables from the standard library.

#include <iostream>  
using namespace std;  
  
int main() {  
  **cout** << "Hello World!";  
  return 0;  
}

cout << "Hello World!"; // This is a comment

[Try it Yourself »](https://www.w3schools.com/cpp/trycpp.asp?filename=demo_single_comment_end)

/\* The code below will print the words Hello World!  
to the screen, and it is amazing \*/  
cout << "Hello World!";

|  |  |  |
| --- | --- | --- |
| **Data Type** | **Size** | **Description** |
| int | 4 bytes | Stores whole numbers, without decimals |
| float | 4 bytes | Stores fractional numbers, containing one or more decimals. Sufficient for storing 7 decimal digits |
| double | 8 bytes | Stores fractional numbers, containing one or more decimals. Sufficient for storing 15 decimal digits |
| boolean | 1 byte | Stores true or false values |
| char | 1 byte | Stores a single character/letter/number, or ASCII values |

C++ Constants

**const** int myNum = 15;  // myNum will always be 15  
myNum = 10;  // error: assignment of read-only variable 'myNum'

C++ User Input

int x;   
cout << "Type a number: "; // Type a number and press enter  
cin >> x; // Get user input from the keyboard  
cout << "Your number is: " << x; // Display the input value

Operator Name Description Example Try it

+ Addition Adds together two values x + y

- Subtraction Subtracts one value from another x - y

\* Multiplication Multiplies two values x \* y

/ Division Divides one value by another x / y

% Modulus Returns the division remainder x % y

++ Increment Increases the value of a variable by 1 ++x

-- Decrement Decreases the value of a variable by 1 --x

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Description** | **Example** | **Try it** |
| && | Logical and | Returns true if both statements are true | x < 5 &&  x < 10 | [Try it »](https://www.w3schools.com/cpp/trycpp.asp?filename=demo_oper_logical1) |
| || | Logical or | Returns true if one of the statements is true | x < 5 || x < 4 | [Try it »](https://www.w3schools.com/cpp/trycpp.asp?filename=demo_oper_logical2) |
| ! | Logical not | Reverse the result, returns false if the result is true | !(x < 5 && x < 10) |  |

string txt = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";  
cout << "The length of the txt string is: " << txt.length();

string firstName;  
cout << "Type your first name: ";  
cin >> firstName; // get user input from the keyboard  
cout << "Your name is: " << firstName;  
  
**// Type your first name: John**  
**// Your name is: John**

string fullName;  
cout << "Type your full name: ";  
getline (cin, fullName);  
cout << "Your name is: " << fullName;  
  
// Type your full name: John Doe  
// Your name is: John Doe

int time = 20;  
if (time < 18) {  
  cout << "Good day.";  
} else {  
  cout << "Good evening.";  
}  
// Outputs "Good evening."

int time = 20;  
string result = (time < 18) ? "Good day." : "Good evening.";  
cout << result;

int day = 4;  
switch (day) {  
  case 1:  
    cout << "Monday";  
    break;  
  case 2:  
    cout << "Tuesday";  
    break;  
  case 3:  
    cout << "Wednesday";  
    break;  
  case 4:  
    cout << "Thursday";  
    break;  
  case 5:  
    cout << "Friday";  
    break;  
  case 6:  
    cout << "Saturday";  
    break;  
  case 7:  
    cout << "Sunday";  
    break;  
}  
// Outputs "Thursday" (day 4)

For Loop

for (int i = 0; i < 5; i++) {  
  cout << i << "\n";  
}