Methods

THEORY

Methods are a handy way to reuse te same piece of code, in the most basic form a method once invoked (we’ll come back to this later) executes a piece of code. More advanced types of methods allow the method to return a value (you can use the method interchangeably with the value it returns, just like variables). A method can also require some inputs.

PRACTICE

The syntax for a method is

typeReturned methodName (inputs declarations){

//code

return valueToReturn;

}

Let’s dig into this syntax:

* typeReturned is the type of the value to return, could be float, string, int,… If your method doesn’t return any value use the type **void**
* methodName is the name that you will use to invoke the method, similar to a variable’s name
* input declarations are the declaration of the input, separated by commas e.g. int x, int y if you have no input leave it void
* the code inside the curly brackets will be executed once the method is invoked
* lastly we have the return keyword, you can use the syntax **return value** to return a value (similarly to assigning a value to a variable)

IMPORTANT: the pair methodName and input declaration has to be unique inside the scope of the function, at the moment you can ignore the scope-part of the sentence.

The variables declared as input don’t need to be assigned before being used, because you will assign them a value when you invoke the method.

To invoke a method use the syntax

methodName(input values)

the input values must be separated by commas, if the method requires no inputs just leave it void.

Examples

A method that takes a number and returns it plus 2.

// method declaration

int addTwo (int x){

y=x+2;

return y;

}

//using the method

int y=3;

y=addTwo(y); //y now has a value of 5

As you can see I used a variable as input when invoking the function and this is perfectly fine.

ADVANCED

Remember the starting code that visual studio provided you? If you look carefully you’ll see that there’s the declaration for the Main method. The Main method is automaticcally executed once you start the program

ASSIGNEMENT

Write a program that has a method that takes as input a string and returns the string doubled e.g. input: “hello”, output: “hellohello”. Then take an input from the console and use the method to double it, write on the console the result.

TIPS:

* remember that you can concatenate string using the + sign

SOLUTION:

//declaring the method

string doubleIt(string input){

return input+input; //returning the string doubled

}

string a= Console.ReadLine();

Console.WriteLine(doubleIt(a) ); //I used the method doubleIt as input for the WriteLine method