Programming in C# (without Visual Studio)

Hello World:

1. Have a folder (make sure that the file extensions are visible)
2. Create a CS file (right mouse button -> new -> text document -> rename document to helloworld.cs)
3. Create a BAT file in the same folder (right mouse button -> new -> text document -> rename document to compile.bat)
4. Open helloworld.cs with the editor of your choice and paste the following code to it, and save it:

**using System;**

**class MainClass**

**{**

**public static void Main()**

**{**

**Console.WriteLine("Hello World");**

**Console.ReadLine();**

**}**

**}**

1. Open compile.bat with the editor of your choice (attention, you have to open it by a right click with the mouse, because by double clicking you are executing the file) and paste the following two lines:

**C:\Windows\Microsoft.NET\Framework\v4.0.30319\csc.exe helloworld.cs**

**Pause**

1. Execute the compile.bat by double clicking on it. (When compile, also be aware of errors that might appear. If errors appear, no file is created)
2. The file helloworld.exe appears. Double click on it to run it.

Explaining the code:

Remember to two essential rules:

* Every method has to be in a class (without exception). In our case the method Main() is in the class MainClass
* Every program must have a method Main() (without exception). Because the program has to know where to start.

Pay attention to the following features of syntax:

* C# is case-sensitive, so “Main()” is not the same as “main()”
* Use “;” at the end of a command, thanks to this, you could, if you wanted, write the whole code in one line.
* Use “{}” to define the reach of a class, method, loop, if-statement
* Use “()” to define a method. In C# there are not methods without “()”, without exception.

Including namespaces with “using”:

* Namespaces will be explained later. For now only this information: ReadLine() is in the class “Console”, and the class “Console” is in the namespace “System”. So you can write System.Console.ReadLine();, which is correct but makes the code longer. Therefore, we use at the beginning the command “using System” and from now on we can omit “System.” in the rest of the document.

Breakpoints in C#:

* Write Console.ReadLine() to break the execution of the code. ReadLine() has of course a further, more important functionality, it returns the input from the keyboard.