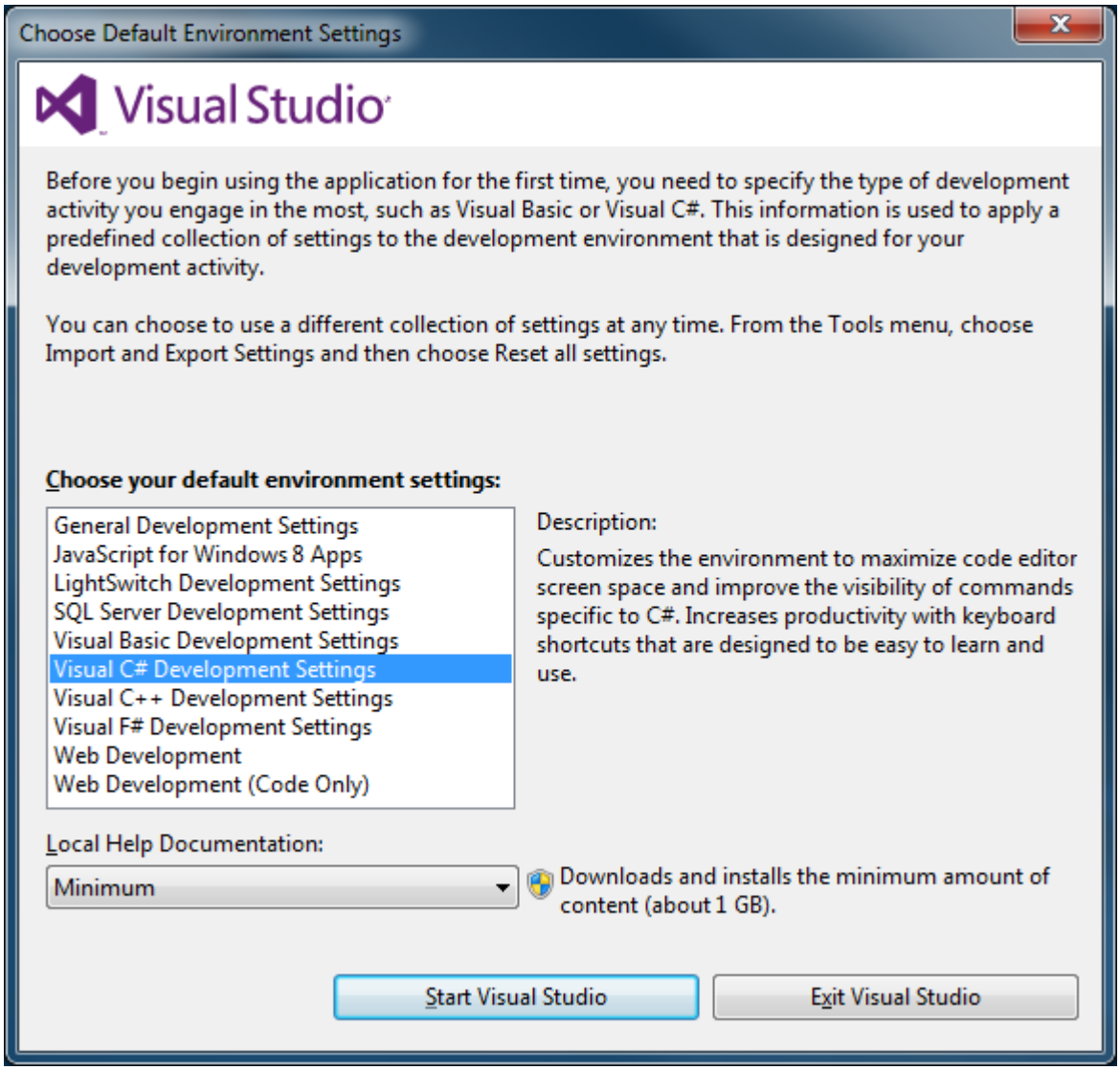
Introduction to Visual Studio (VS)

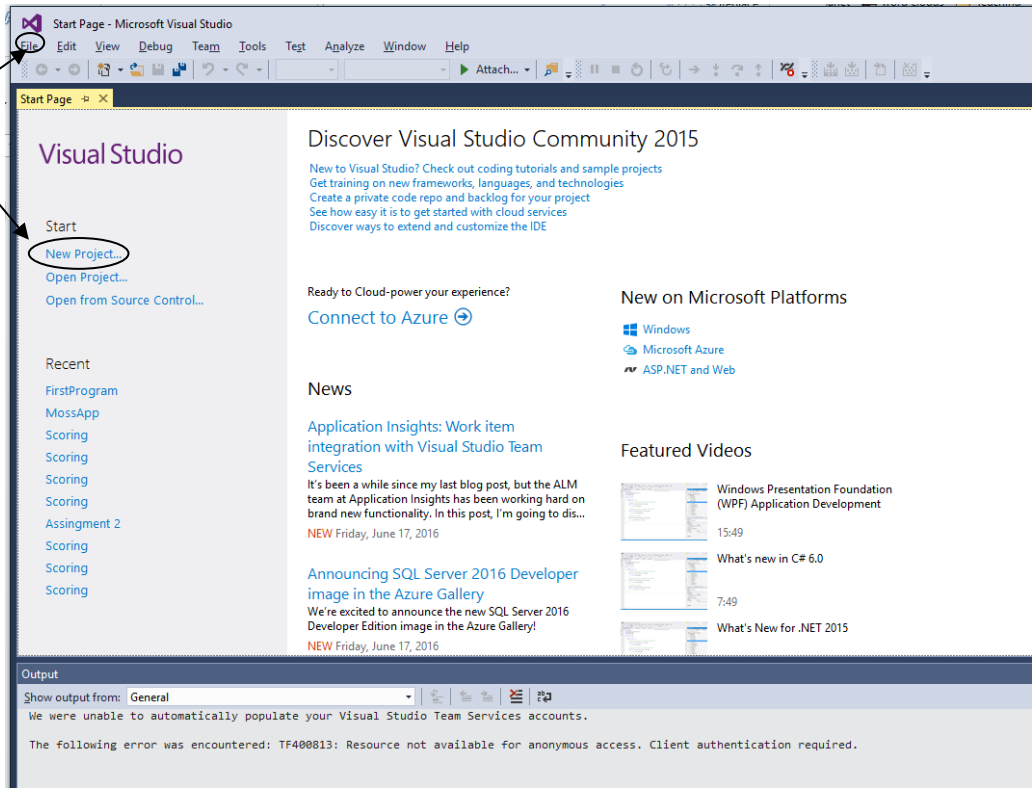
Visual Studio is the IDE (Integrated Development Environment) provided by Microsoft for developing .NET applications. This environment allows you to get started with your coding phase (following the design) relatively quickly. It provides template projects for many of the common types of software development activities that one might encounter. However we are only interested in writing C# Console applications for the first few weeks of this semester.

To demonstrate its usage, we will code a Console application.

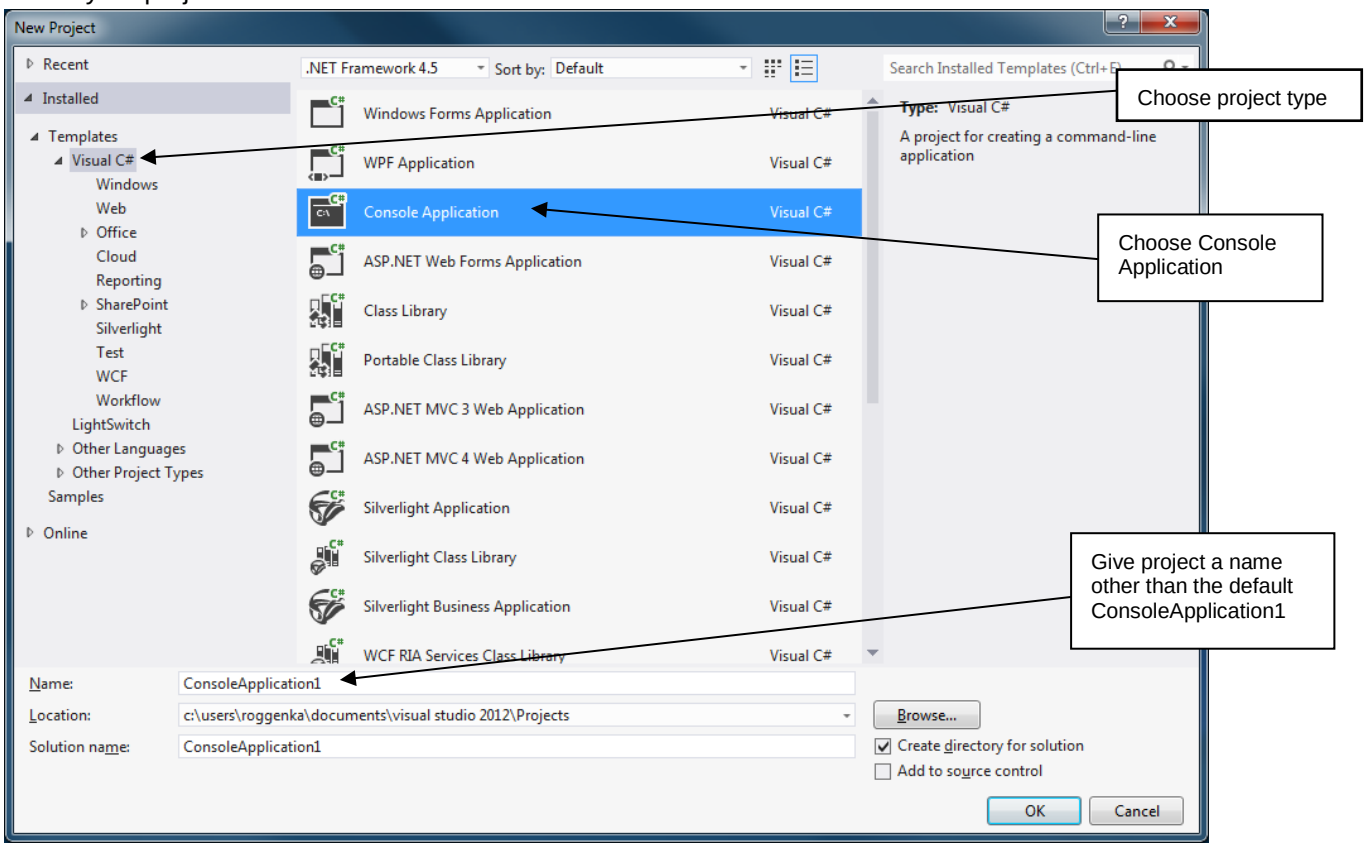
First time you run VS you will see a screen like the following. Choose ***Visual C# Development Settings***.

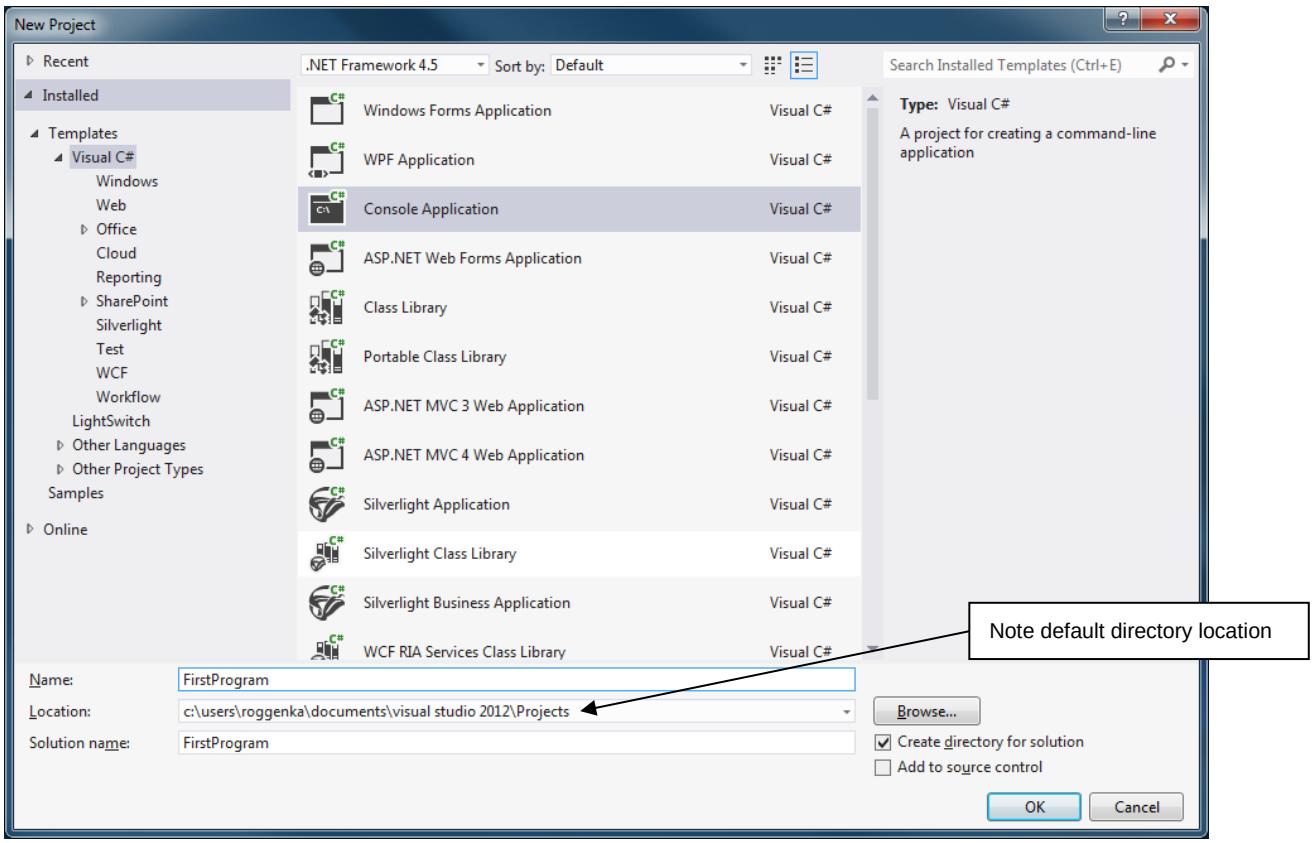


Firstly to create a new Project. Click the “New Project ...” link from the start page, or select “File->New->Project” from the menu bar. VS calls a program, a Project.



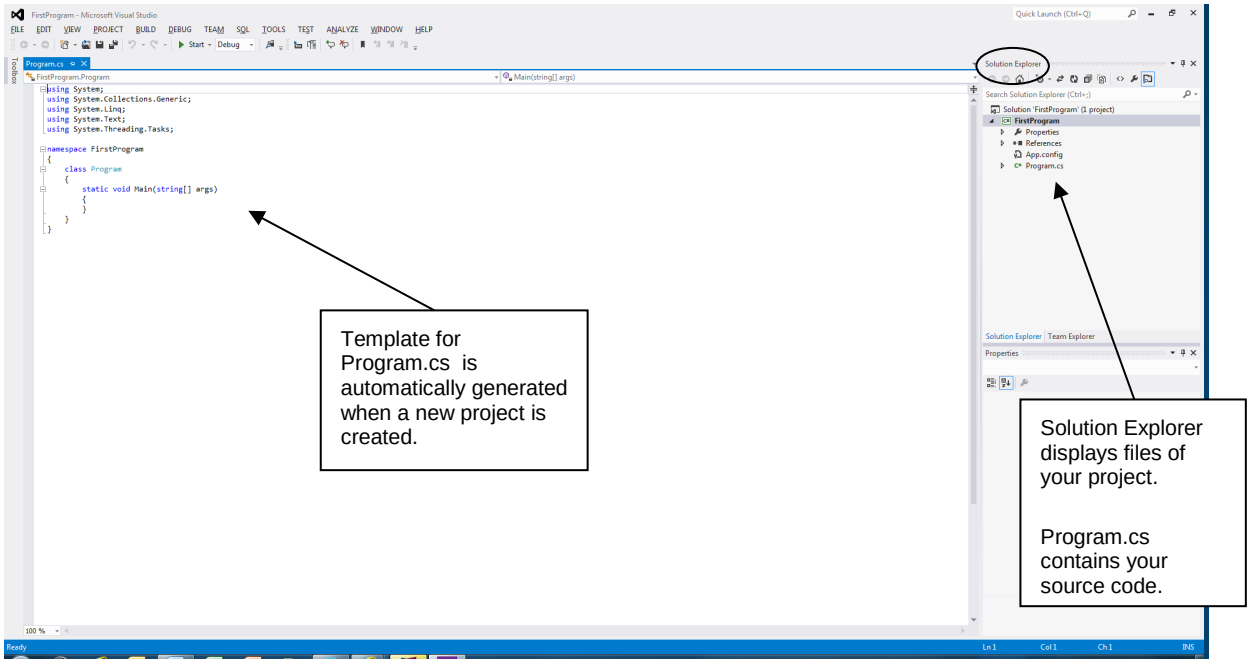
Once you choose to start a new project VS will prompt you with a "Dialog box" where you will choose the type of project. Visual Studio allows you to build projects in a number of different languages. We will be developing our project as a Visual C# project, so choose ***Visual C#*** and ***Console application.*** Before you create the new project, you will then need to give it a name. You should call it something meaningful/relevant to the project. Visual Studio will (by default) create a directory for your project with the name that you have given the project. When you have set the name, etc, click the OK button to create your project.



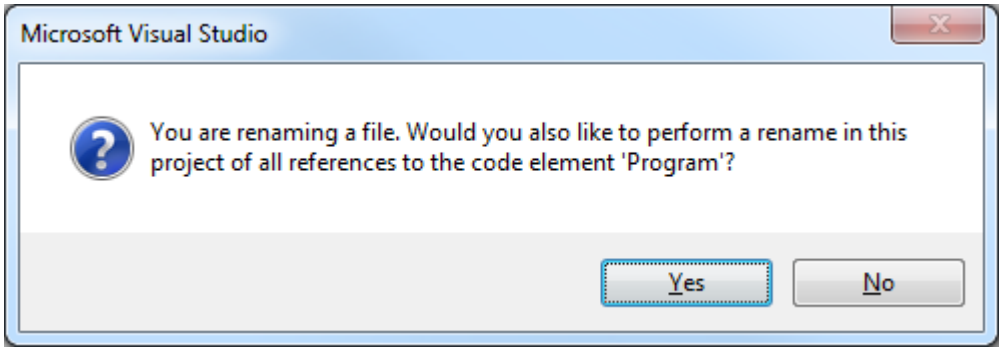


Visual Studio will create a new project (your program) which contains a new empty class file, called **Program.cs.** This class will automatically contain an empty method called **Main**. This Main method is the entry point of the program. A project can contain more than one class file. You will be building larger applications later which have more than one class. For the moment, you will only need one class.

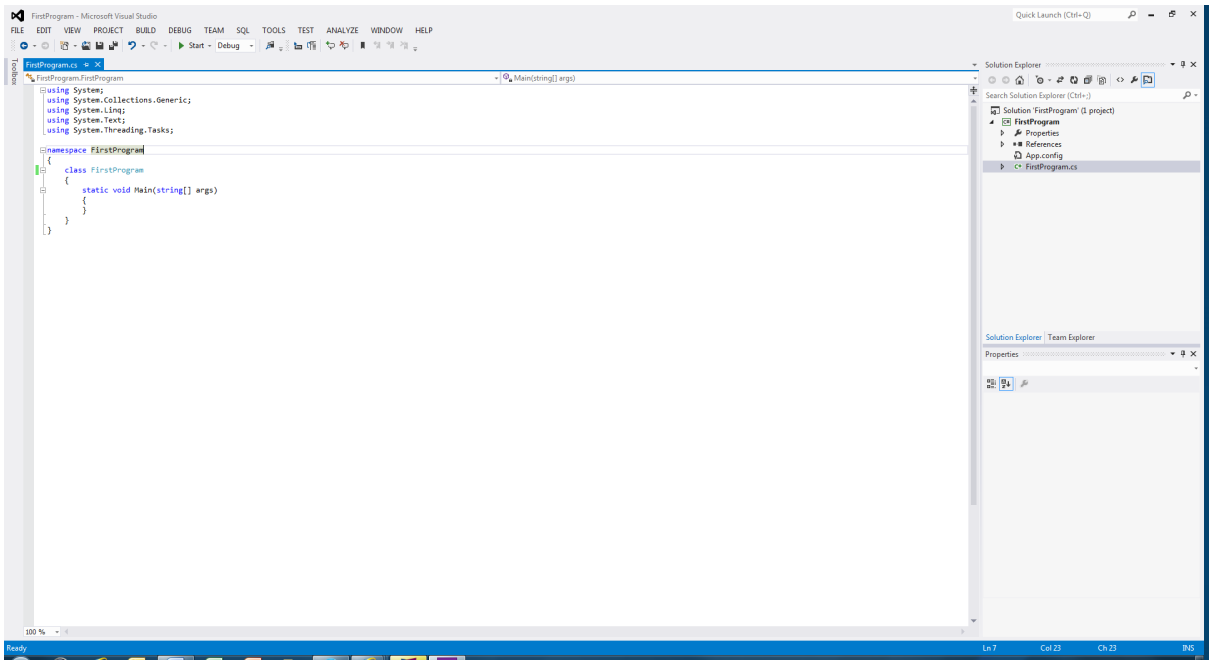
You can see what files are parts of your project by looking in the ***Solution Explorer tab***. If you double click on a file, that file will open in the main part of the screen, which is the editor. Aside from the Program.cs file, you should see two other items in the Solution Explorer. One is Properties and the other is References. These store some information about your VS project and also which libraries are currently linked to your project. The various System libraries are added by default.



Next you should rename the Program.cs file to FirstProgram.cs. This is done in the Solution Explorer. Right click on Program.cs and choose rename. You will see a prompt "… to perform a rename to all references …"click Yes

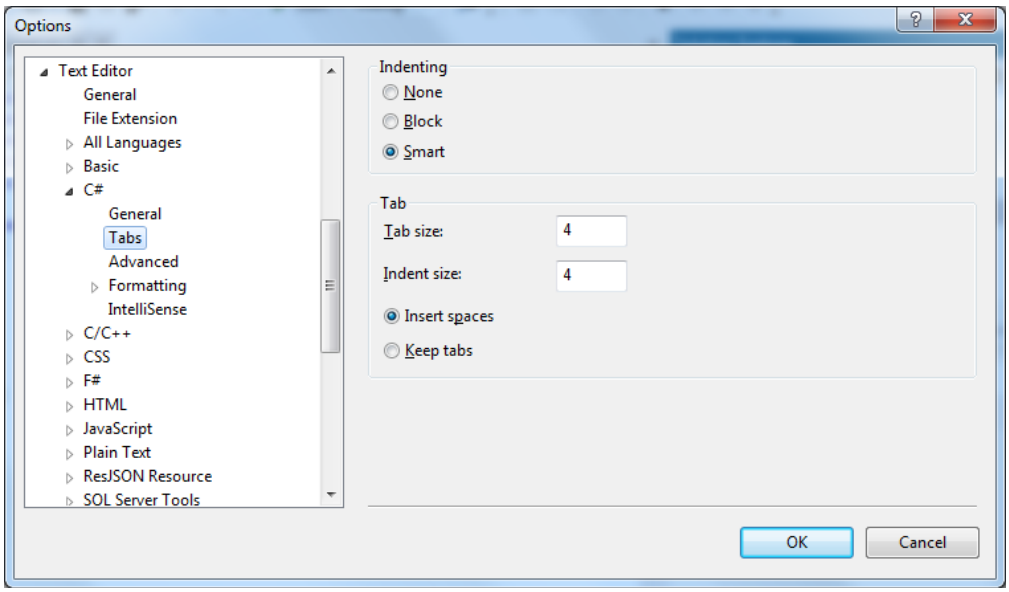


Classes are named by capitalising the first letter of each word in their names. Thus, the above class is named *FirstProgram*, rather than *firstprogram*, or *firstProgram*. See screenshot below.

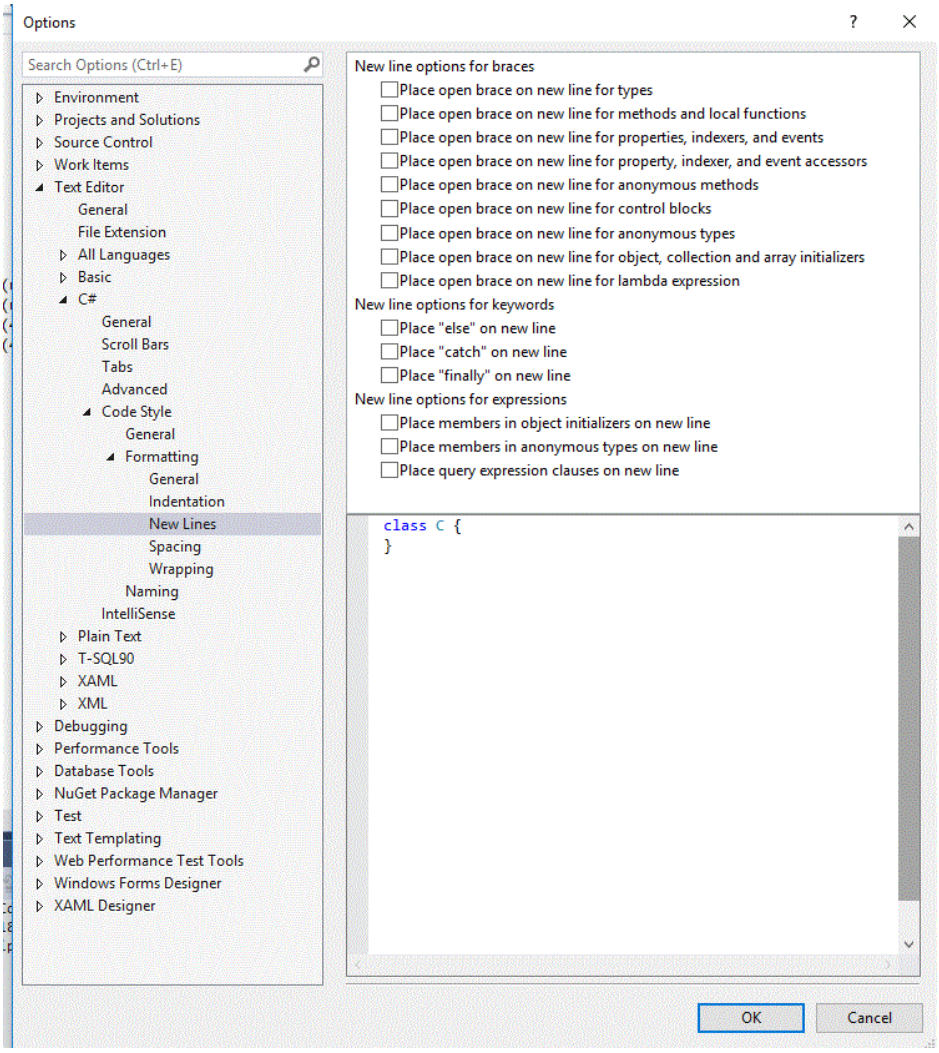


In order to keep your C# source code compatible with our C# Coding Style Guide, you will need to modify the way Visual Studio deals with tabs and braces { }.

Go to the *Tools* menu and select *Options*. In the dialogue box, expand the Text Editor and then expand the C# option. Go the *Tabs* and select *Insert Spaces*, rather than *Keep Tabs* (the 4 indicates how many spaces). By using spaces rather than tabs, your source code will look the same when viewed with other editors.



Next, expand the *Code Style* then *Formatting* and choose *New Lines*. Untick all the boxes. Now Visual Studio will adhere more closely to our formatting standard. Click *OK*.



After that, click once on your code. Then select the *Edit* menu, then *Advanced* and then *Format Document* to reformat the code with the changes you just made.