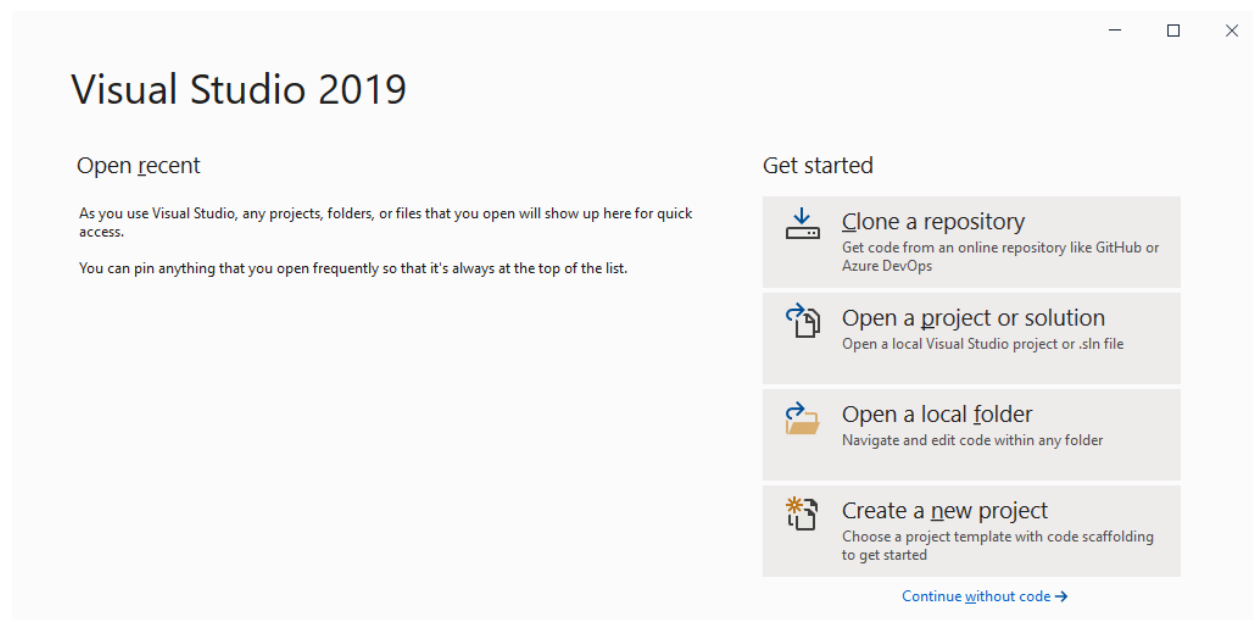


# Module 1 – Getting Familiar with Visual Studio Environment

## 1. Creating a new project in Visual Studio.

Please run Visual Studio 2019 (Community Edition) in your computer. First you should see the Start page as shown in Figure 1. On the left-hand side of this page are listed the recent project you have been working on. But, if this is the first time that you open Visual Studio to create a project, it will display nothing.

For now, we are more interested in the right-hand side of the page, where it says, “*Get started*”. There are several options there, and among them we will choose the “*Create a new project*” item. You need to create a new **project** in Visual Studio each time you want to develop a new Visual C# application.



**Figure 1.** Visual Studio Start Page

Please click on “**Create a new project.**”

## 2. Choosing the project template

The list of project templates will be displayed on the right-hand side (see Figure 2). There is a search option and some other filtering options available to help you quickly find the template that you are interested in.

Throughout this course we will focus on creating **C# Windows Forms** applications. To create a new Windows Forms project, we need to click on *Windows Forms App* from the list shown.

Please note that, there are two Windows Forms items in the list. The first item is based on the C# language, which we prefer, and the second item is based on the Visual Basic language. Ensure that you choose the C# version of the Windows Forms App item.

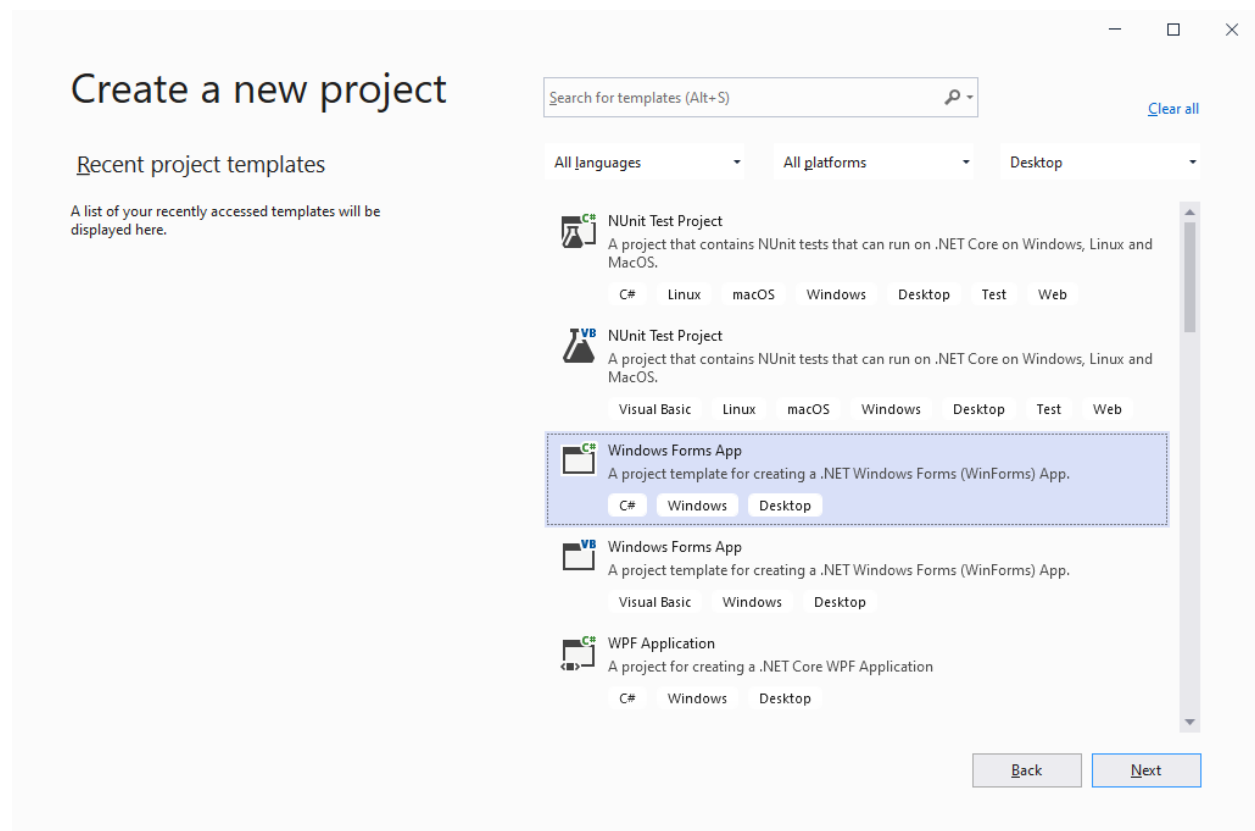


Figure 2. Project templates

### 3. Configuring the new project

In the next screens (Figure 3), you need to configure your project. To do that, please first simply enter a project name (e.g., *HelloVisualCSharp*). Throughout this course, we will create many projects. It is a good practice to always enter a descriptive project name instead of using the default text. Otherwise, I promise you that in two weeks you will not remember what each project does.

*Solution* name will be automatically the same as the project name you type. Solution is a container that can hold multiple projects. Throughout this course, we will always keep the solution name the same as the project name.

The figure consists of two screenshots of the Visual Studio 'Configure your new project' wizard. The top screenshot is titled 'Configure your new project' and shows the following fields: 'Project name' with the value 'HelloVisualCSharp', 'Location' with the value 'C:\Users\Erkan Er\source\repos', and 'Solution name' with the value 'HelloVisualCSharp'. There is an unchecked checkbox for 'Place solution and project in the same directory'. The bottom screenshot is titled 'Additional information' and shows a 'Target Framework' dropdown menu set to '.NET Core 3.1 (Long-term support)'. Both screenshots have 'Back' and 'Next' (or 'Create') buttons at the bottom right.

Figure 3. New project configuration.

In the next window, please choose .NET Core version for the target framework and then click **Create**.

## 4. Visual Studio environment

Visual Studio environment with newly created project should appear after a several seconds, as you can see in Figure 4 below. This environment is composed of several useful windows and some menu items.

There are three windows that you will mostly use. First one is the (1) Solution Explorer. In this window, you can access the projects in your solution and navigate through all project files.

Second one is the (2) Properties window, where you can view and change the properties of any element selected, which can be a label component that you may add to the form, or a file chosen in the Solution Explorer.

The third window is (3) Designer window, which allows you to build the graphical user interface (GUI) for your application.

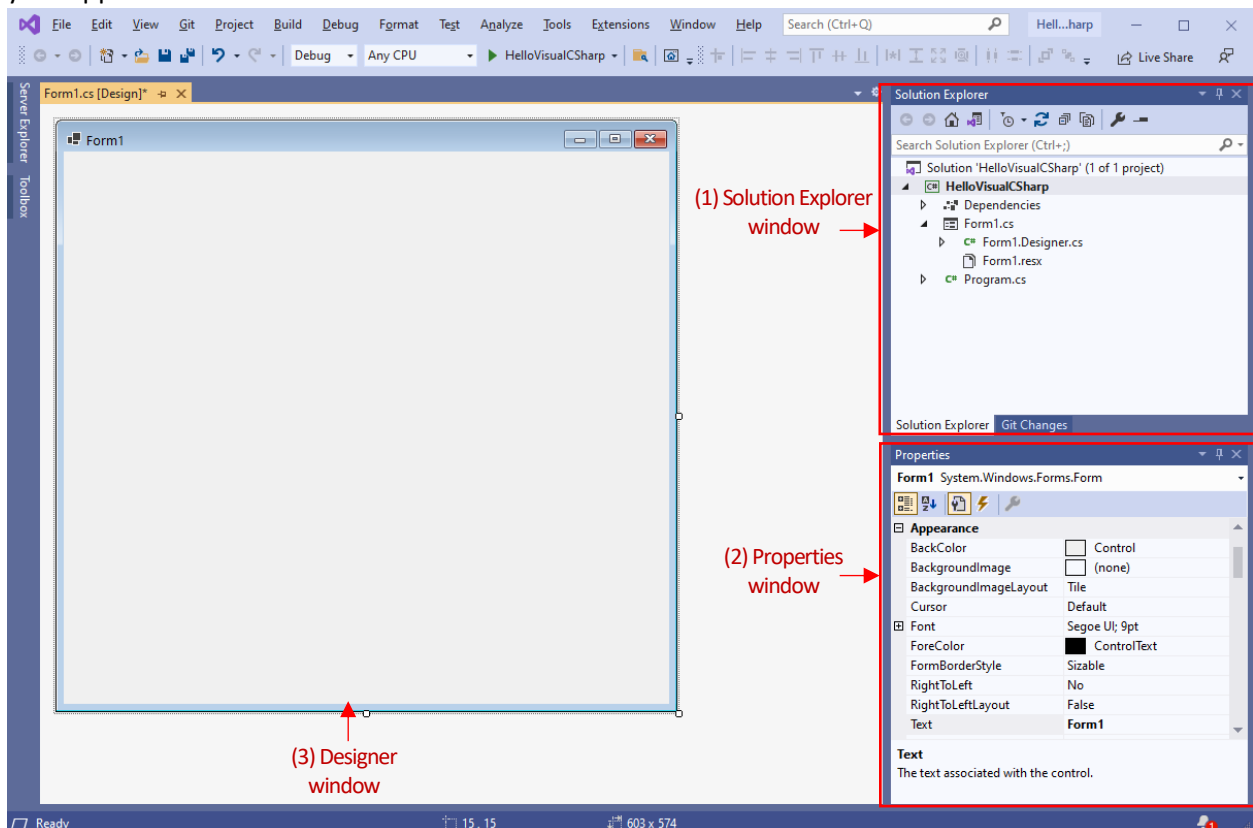


Figure 4. Visual Studio environment after creating a new project.

## 5. Auto hiding/showing windows

Many windows in Visual Studio can be minimized to a tab using the **Auto Hide** feature. This feature can be turned on/off by clicking on the pushpin icon in a window's title bar. To minimize the Solution Explorer and Properties windows, please click on the pushpin icons as shown in the image shown below.

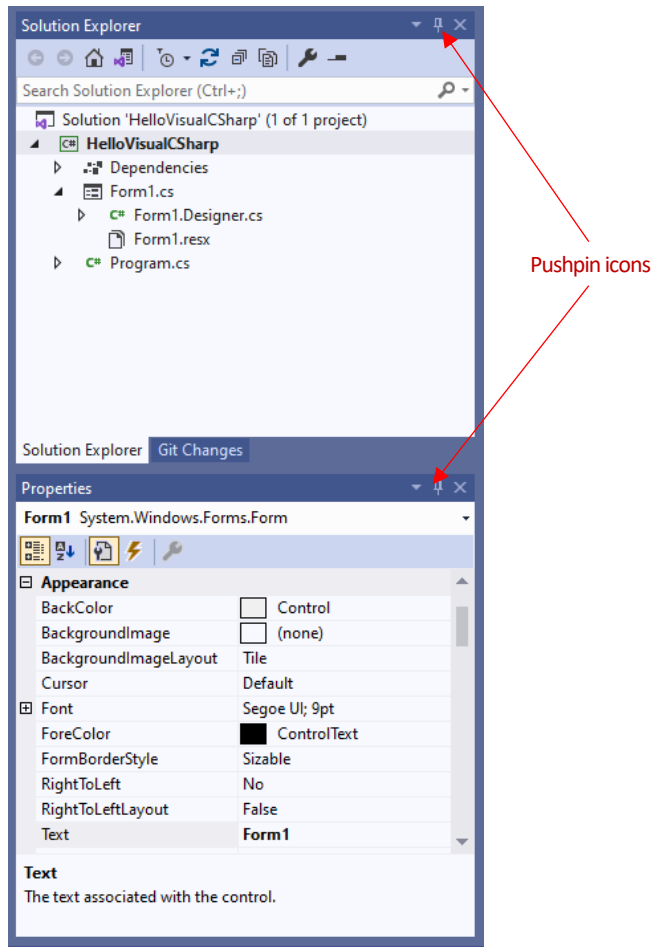


Figure 5. Using pushpin buttons to minimize windows.

You should obtain the following view, where the tabs for Solution Explorer and Properties are shown on the right hand-side vertically. You can click on these tabs to display the windows.

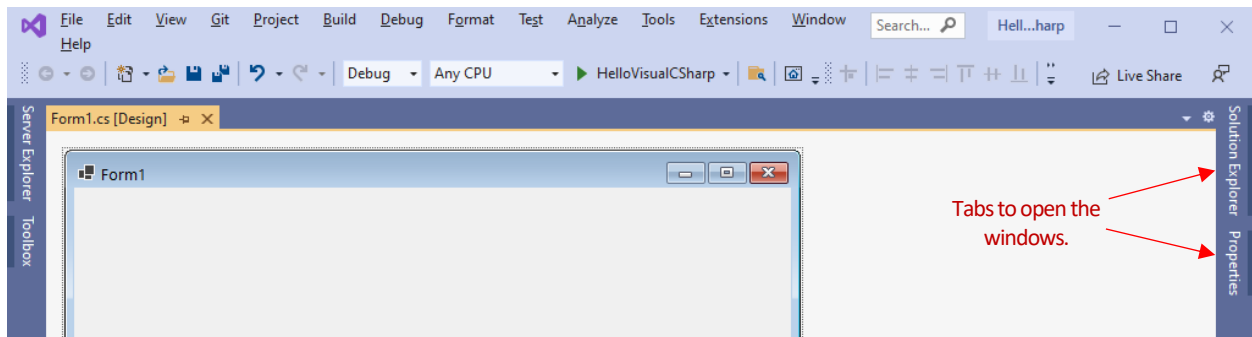
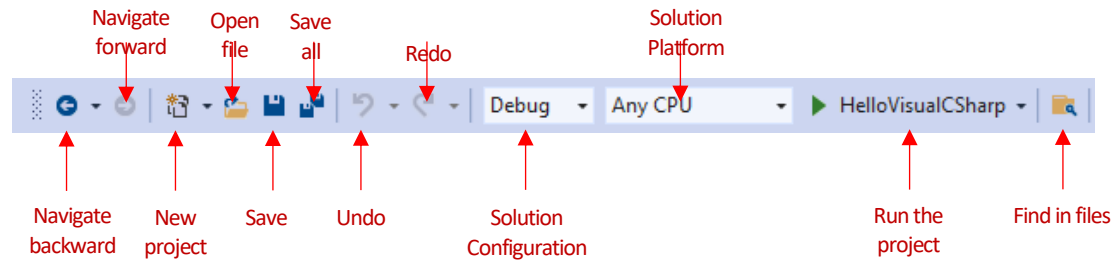


Figure 6. The view with windows minimized using pushpin icons.

## 6. Standard Toolbar

Standard toolbar gives you a quick access to some frequent commands that you will need quite often such as save, debug, etc. The following figure labels the functionality of each button in the toolbar.



Detailed description about toolbar buttons is provided in Table 1 below:

**Table 1.** Toolbar buttons

<b>TOOLBAR BUTTON</b>	<b>DESCRIPTION</b>
Navigate backward	Navigates to the previously active tab
Navigate forward	Navigates to the next active tab
New project	Creates a new project
Open file	Opens an existing file
Save	Saves the file that is currently open
Save all	Saves all files opened in all tabs
Redo	Redoes the latest operation that was undone
Undo	Undoes the latest operation (i.e., change in the code or in the designer)
Solution Configuration	Configures your project's executable code
Solution Platform	Lets you select the platform on which the application will run
Run the project	Helps you run (and debug) your project
Find in files	Searches for text in your application code

## 7. The Toolbox

When creating the interfaces for your applications, you need to use various form controls such as labels (to display some text), buttons (to enable some user actions), textboxes (to receive user input) and so forth. These controls are accessible from the **Toolbox** located (mostly) on the left hand-side of the Visual Studio window. It might be initially minimized. To display the toolbox, please click on the Toolbox tab.

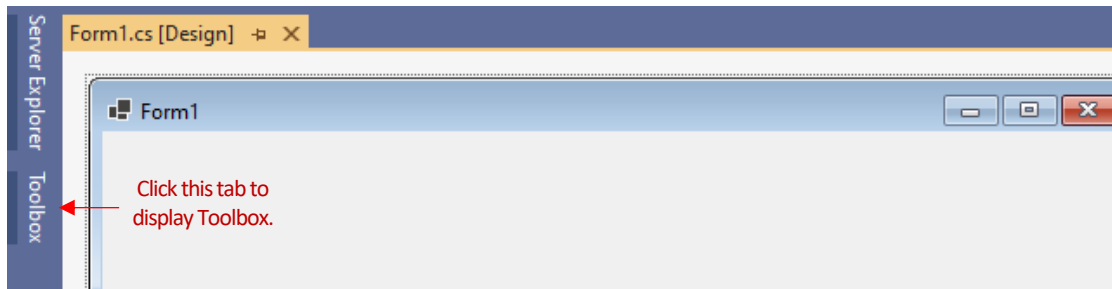


Figure 7. Toolbox tab.

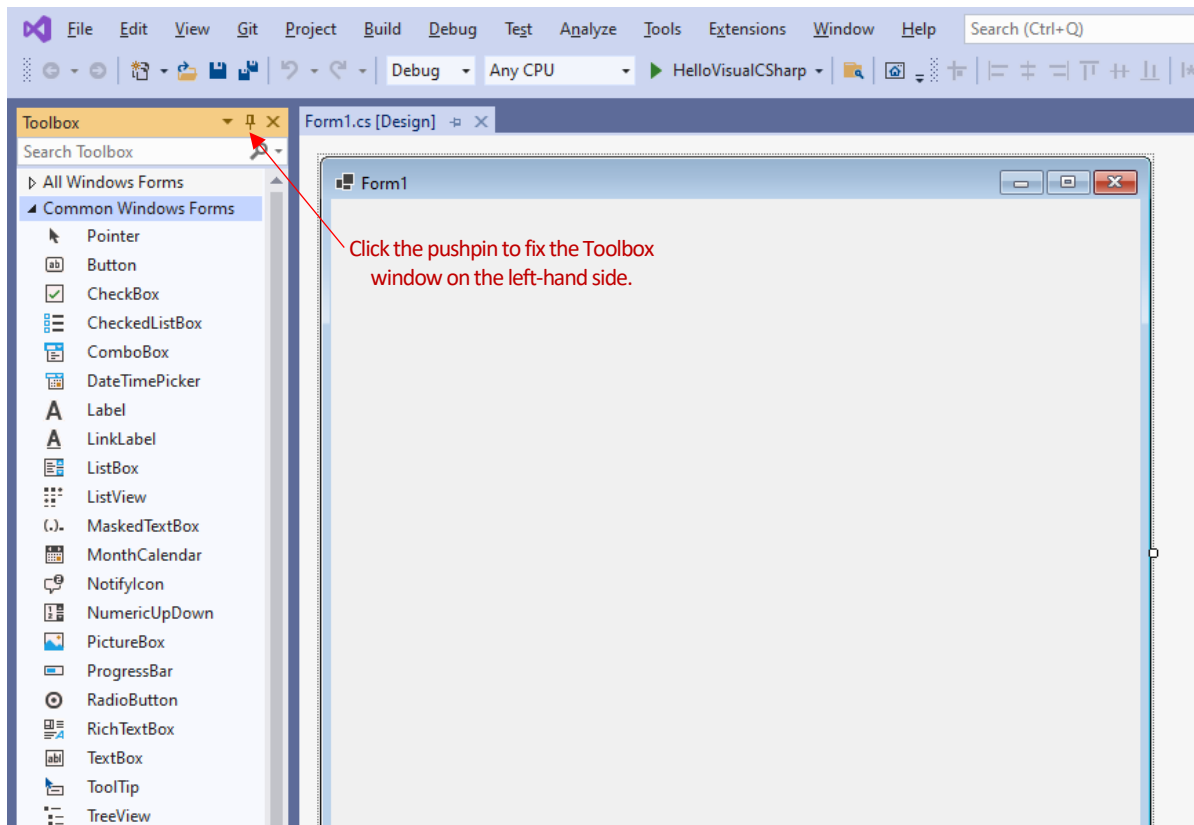


Figure 8. The Toolbox Window.

The controls in Toolbox are grouped by sections. As you may see in the image above, the controls that you will use very frequently are placed in the **Common Windows Forms** sections. You can explore the other sections in the Toolbox.

## 8. Closing and opening projects in Visual Studio

To close your project, you can simply close Visual Studio. However, if you want to switch to a different project, you may prefer to exit from the current project. To do that, you should click on the **File** menu and then click on **Close Solution** (Figure 9).

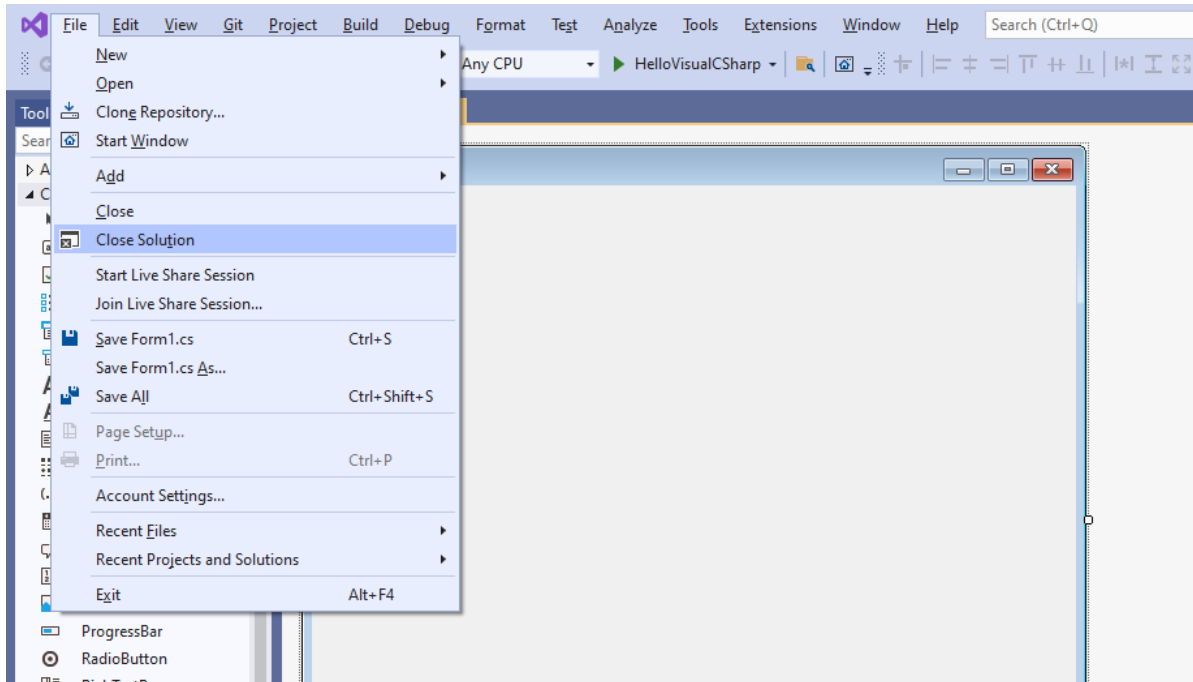


Figure 9. Closing a solution.

Then, a new window popup will show up asking you to what to do next. You can open a recent project (from the list on the left side) or do any other operation listed on the right side.

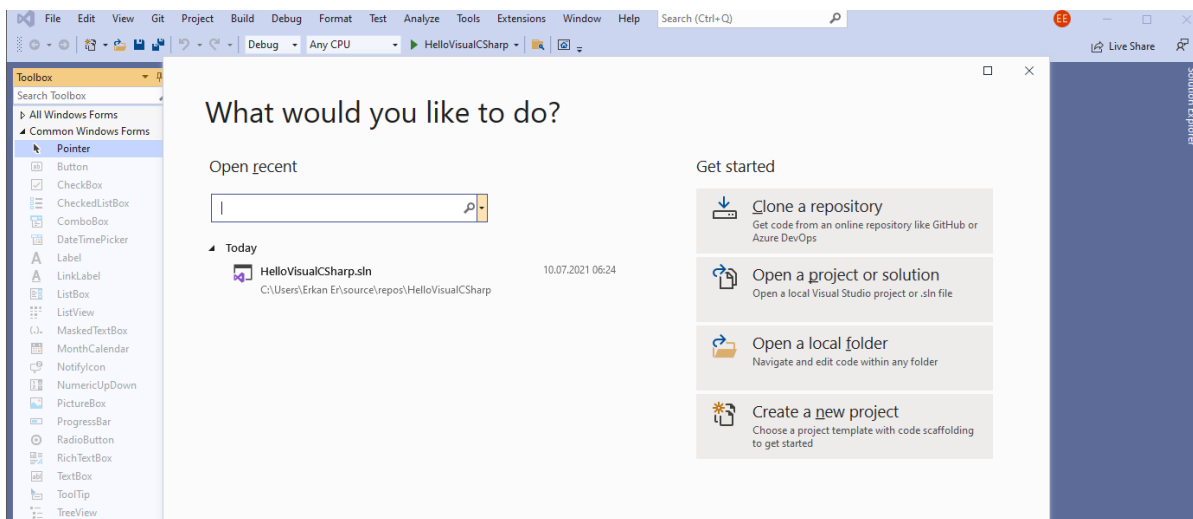


Figure 10. Popup window to choose the next action.