



ASP.NET CORE

Documentation

[Abstract](#)

[Draw your reader in with an engaging abstract. It is typically a short summary of the document.
When you're ready to add your content, just click here and start typing.]

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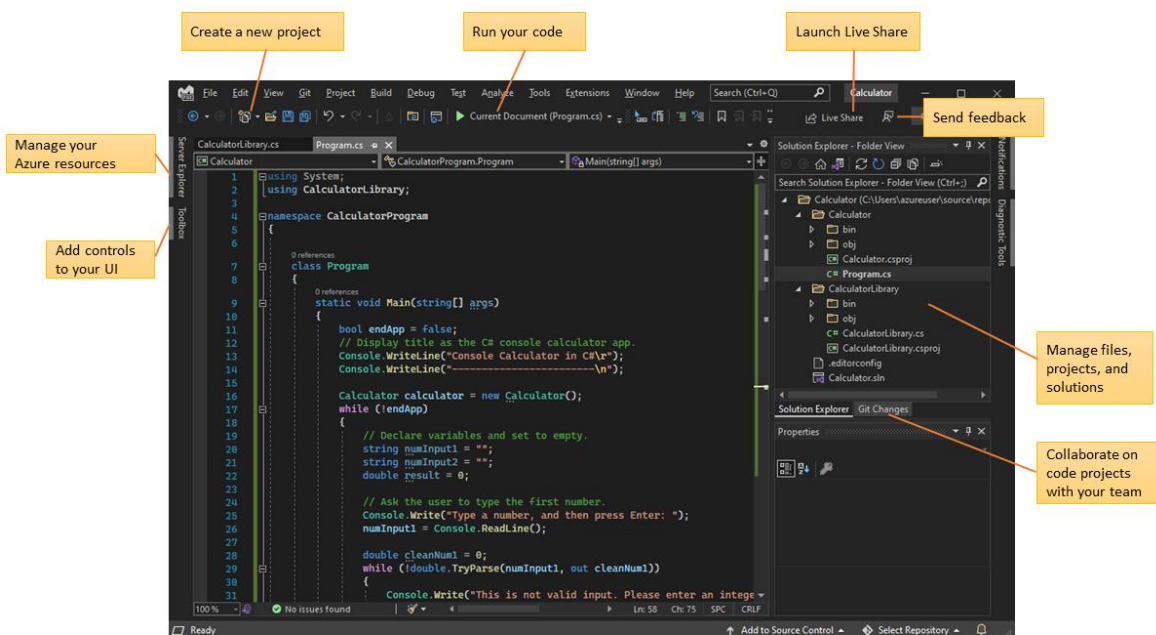
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VISUAL STUDIO 2019 IDE OVERVIEW

1.1 WHAT IS A VISUAL STUDIO?

- Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps.
- Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists.

1.2 DIFFERENT TYPES OF WINDOWS



- In Solution Explorer, at upper right, you can view, navigate, and manage your code files. Solution Explorer can help organize your code by grouping the files into solutions and projects.
- The central editor window, where you'll probably spend most of your time, displays file contents. In the editor window, you can edit code or design a user interface such as a window with buttons and text boxes.

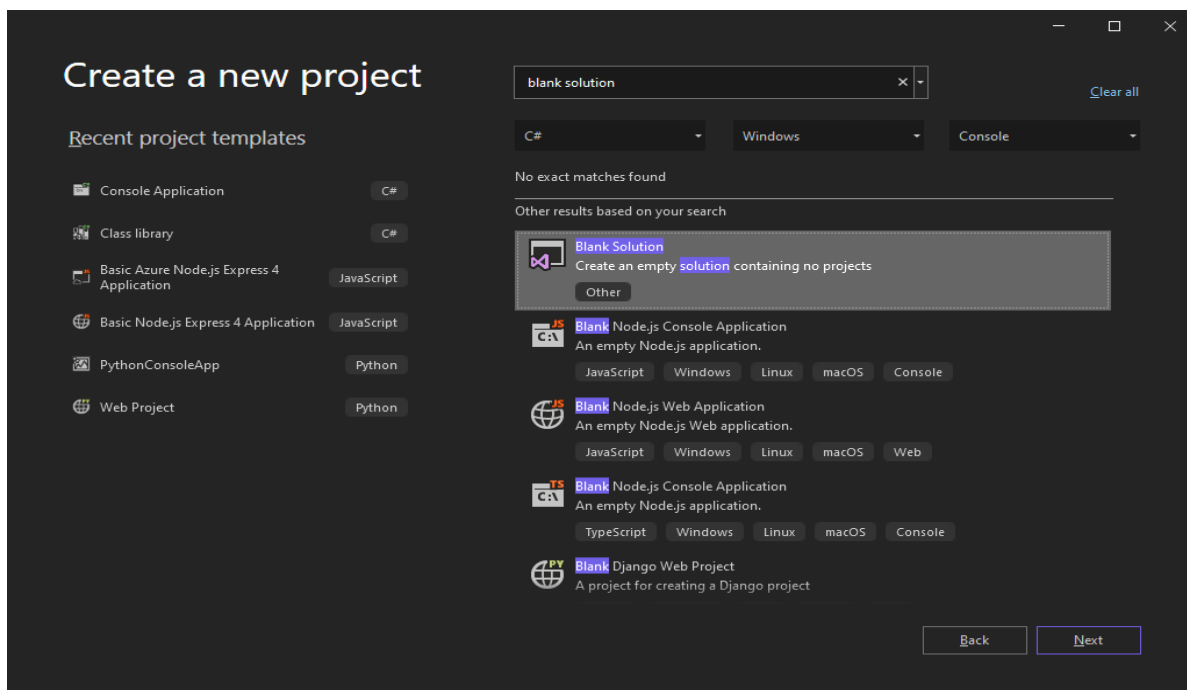
- The central editor window, where you'll probably spend most of your time, displays file contents. In the editor window, you can edit code or design a user interface such as a window with buttons and text boxes.

1.3 SOLUTION AND PROJECT

- We are used Solution Explorer to manage project. Using Solution Explorer we should manage folder structure and navigate different files.
- Solution Explorer have a file which is contain solution details and projects details.
- This file have `'.sln'` extension.
- Solution contain one or more projects.
- Project have one file which contain details about project.
- Which have `'.csproj'` extension(if project base on C#).

1.3.1 CREATE A SOLUTION:

- Open Visual Studio, and on the start window, select Create a new project.
- Open Visual Studio, and on the start window, select Create a new project.



- On the Configure your new project page, give the name of Solution, and then select Create.

- Let say our solution name is '**QuickSolution**'.

1.3.2 ADD A PROJECT:

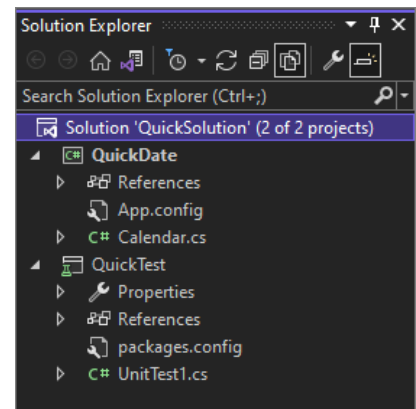
- Right-click Solution '**QuickSolution**' in Solution Explorer, and select Add > New Project from the context menu.
- On the Add a new project page, type empty into the search box at the top, and select C# under All languages.
- Select the C# Empty Project (.NET Framework) template, and then select Next.
- On the Configure your new project page, give the name of Project, and then select Create.
- Let say our solution name is '**QuickDate**'.

1.3.3 ADD AN ITEM TO THE PROJECT:

- From the right-click or context menu of the '**QuickDate**' project in Solution Explorer, select Add > New Item.
- Expand Visual C# Items, and then select Code. In the middle pane, select the Class item template. Under Name, give the name of file, and then select Add.
- Let say our file name is '**Calander.cs**'.

1.3.4 ADD A SECOND PROJECT:

- From the right-click or context menu of Solution '**QuickSolution**' in Solution Explorer, select Add > New Project.
- In the Add a new project dialog box, type unit test into the search box at the top, and then select C# under All languages.
- Select the C# Unit Test Project (.NET Framework) project template, and then select Next.
- On the Configure your new project page, give the name of project, and then select Create.
- Let say our second project name is '**QuickTest**'.
- Add one file inside the second project.
- Let say our file name is '**UnitTest1.cs**'.

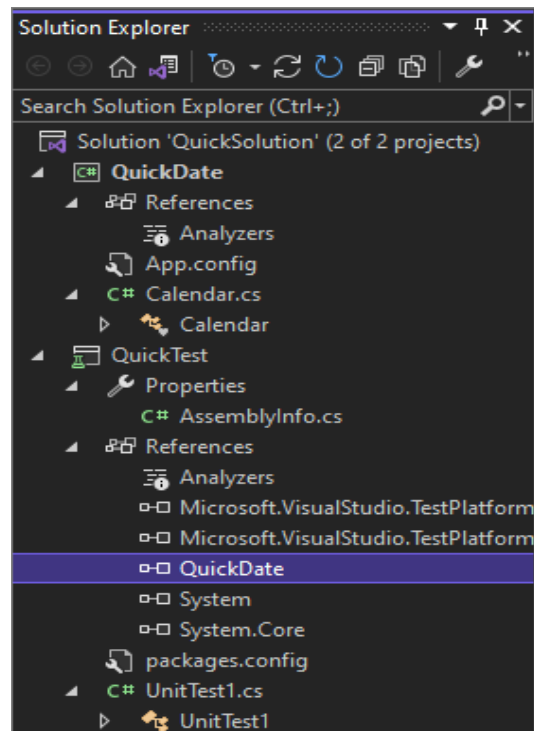


1.3.5 ADD A PROJECT REFERENCE:

- In Solution Explorer, right-click the References node of the '**QuickTest**' project, and select Add Reference from the context menu.

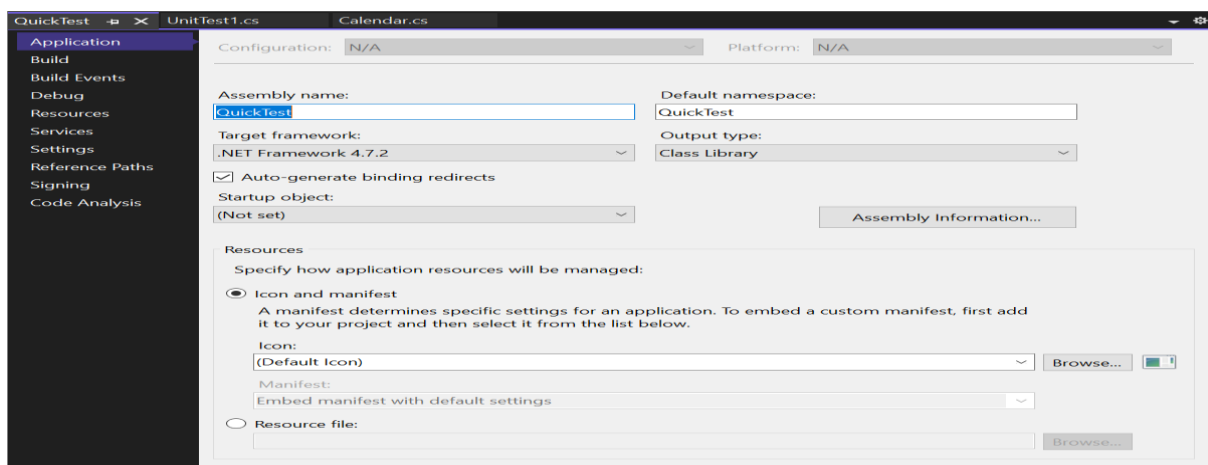
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- In the Reference Manager dialog box, under Projects, select the checkbox next to **'QuickDate'**, and then select OK.
- Now a reference to the **'QuickDate'** project appears under the **'QuickTest'** project in Solution Explorer.



1.3.6 PROJECT PROPERTIES:

- In Solution Explorer, right-click the **'QuickTest'** project and select Properties, or select the project and press Alt+Enter.

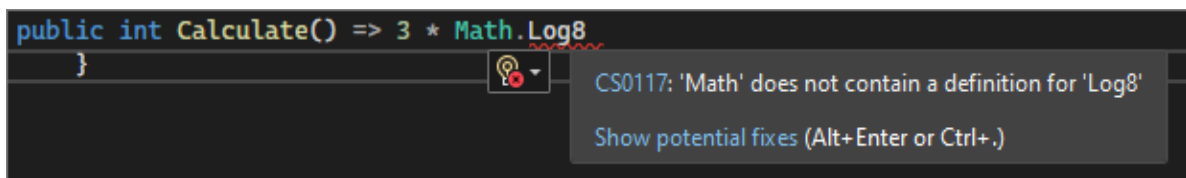


1.4 CODE EDITOR FEATURES

- Some popular features in Visual Studio that improve your productivity when developing software include

1.4.1 SQUIGGLES AND QUICK ACTIONS:

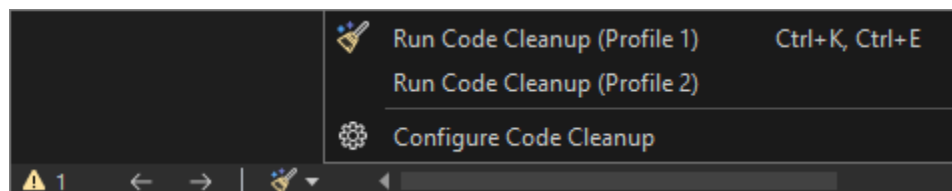
- Squiggles are wavy underlines that alert you to errors or potential problems in your code as you type.
- These visual clues help you fix problems immediately, without waiting to discover errors during build or runtime.



- If you hover over a squiggle, you see more information about the error.
- A lightbulb might also appear in the left margin showing Quick Actions you can take to fix the error.

1.4.2 CODE CLEANUP:

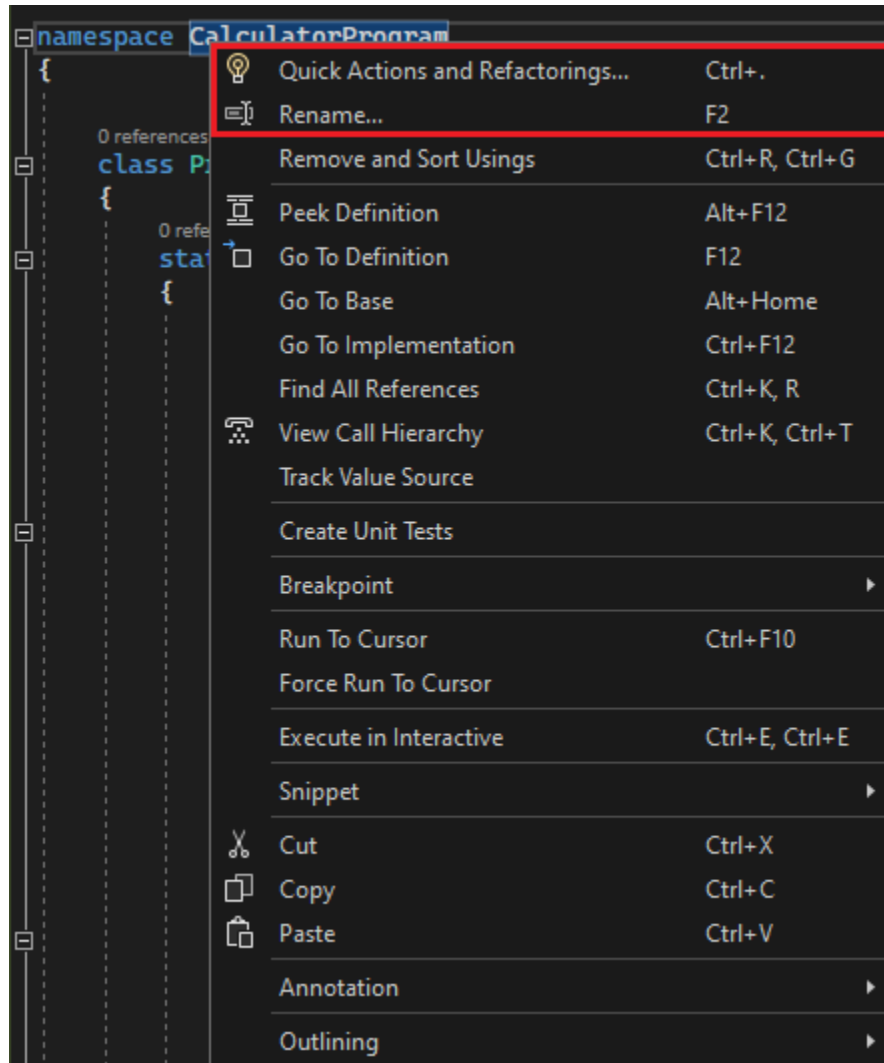
- With the click of a button, you can format your code and apply any code fixes suggested by your code style settings, .editorconfig conventions, and Roslyn analyzers.
- Code Cleanup, currently available for C# code only, helps you resolve issues in your code before it goes to code review.



1.4.3 REFACTORING:

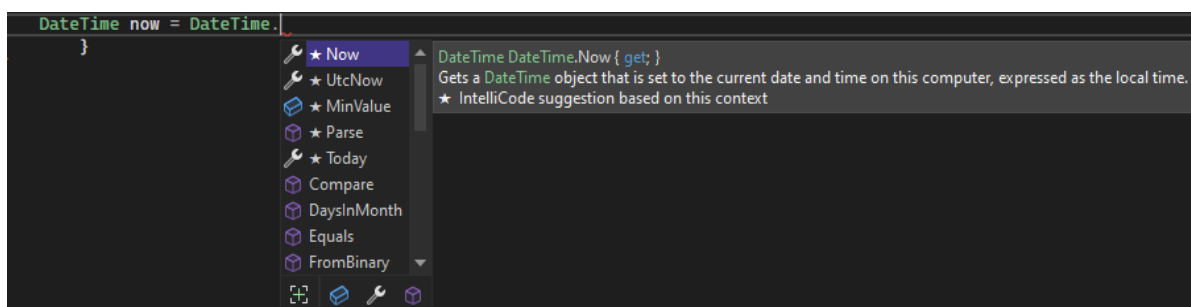
- Refactoring includes operations such as intelligent renaming of variables, extracting one or more lines of code into a new method, and changing the order of method parameters.

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1.4.4 INTELLISENSE:

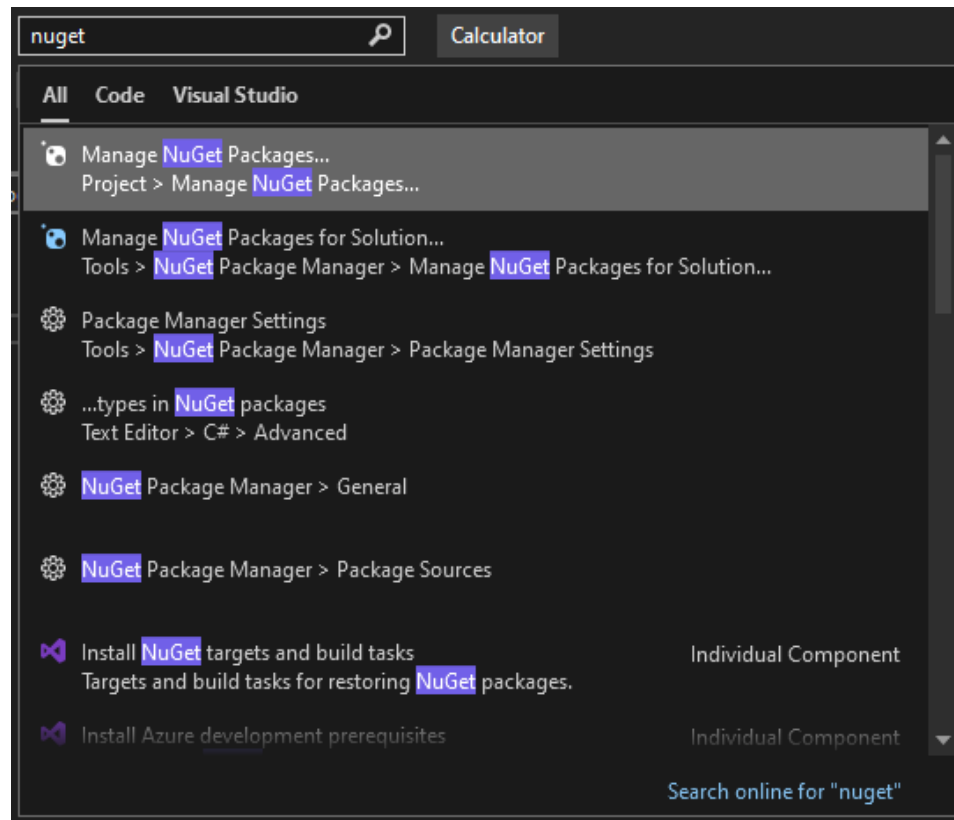
- IntelliSense is a set of features that display information about your code directly in the editor and, in some cases, write small bits of code for you.
- It's like having basic documentation inline in the editor, so you don't have to look up type



information elsewhere.

1.4.5 VISUAL STUDIO SEARCH:

- Visual Studio menus, options, and properties can seem overwhelming at times.
- Visual Studio search, or '**Ctrl+Q**', is a great way to rapidly find IDE features and code in one place.

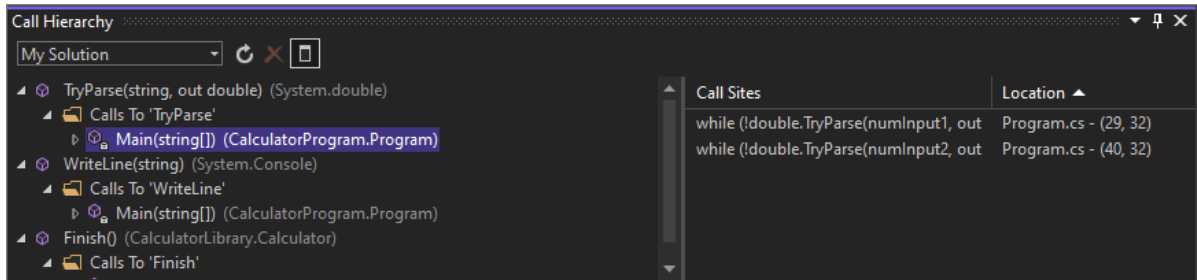


1.4.6 LIVE SHARE:

- Collaboratively edit and debug with others in real time, regardless of your app type or programming language.
- You can instantly and securely share your project. You can also share debugging sessions, terminal instances, localhost web apps, voice calls, and more.

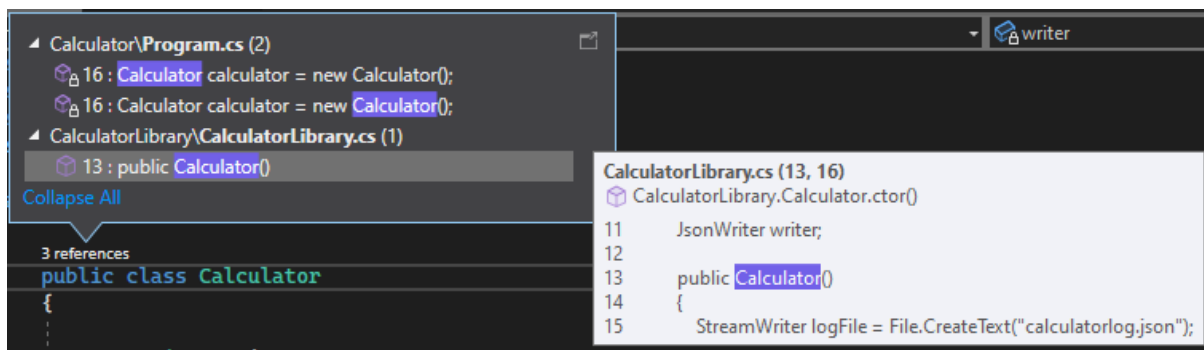
1.4.7 CALL HIERARCHY:

- The Call Hierarchy window shows the methods that call a selected method.
- This information can be useful when you're thinking about changing or removing the method, or when you're trying to track down a bug.



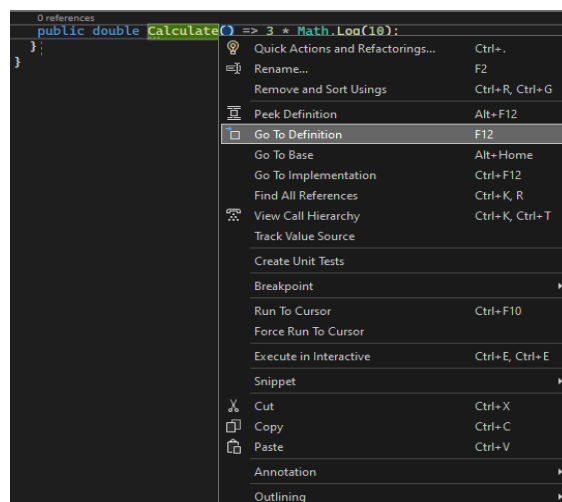
1.4.8 CODELENS:

- CodeLens helps you find code references, code changes, linked bugs, work items, code reviews, and unit tests, without leaving the editor.



1.4.9 GO TO DEFINITION:

- The Go To Definition feature takes you directly to the location of a function or type definition.



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1.4.10 PEEK DEFINITION:

- The Peek Definition window shows a method or type definition without opening a separate file.

```

400 // true if s was converted successfully; otherwise, false.
401 public static bool TryParse([NotNullWhen(true)] string? s, out Double? result)
402 {
403     ...
404     public int CompareTo(object? value);
405     ...
406     public override bool Equals([NotNullWhen(true)] object? obj);
407     ...
408     public bool Equals(Double obj);
409     ...
410     public override int GetHashCode();
411     ...
412     public TypeCode GetTypeCode();
413     ...
414     public override string ToString();
415     ...
416     public string ToString(IFormatProvider? provider);
417     ...
418     public string ToString(string? format);
419     ...
420     public string ToString(string? format, IFormatProvider? provider);
421     ...
422     public bool TryFormat(Span<char> destination, out int charsWritten, IFormatProvider? provider, string? format);
423     ...
424     public static bool operator ==(Double left, Double right);
425     ...
426     public static bool operator !=(Double left, Double right);
427     ...
428 }
  
```

1.5 POPULAR KEYBOARD SHORTCUTS FOR VISUAL STUDIO:

1.5.1 BUILD:

| Commands | Keyboard shortcuts | Command ID |
|-------------------------------|--------------------|---------------------------------|
| Build solution | Ctrl+Shift+B | Build.BuildSolution |
| Cancel | Ctrl+Break | Build.Cancel |
| Compile | Ctrl+F7 | Build.Compile |
| Run code analysis on solution | Alt+F11 | Build.RunCodeAnalysisonSolution |

1.5.2 DEBUG:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|-------------------|---------------------------------------|-----------------------|
| Break at function | Ctrl+B | Debug.BreakatFunction |
| Break all | Ctrl+Alt+Break | Debug.BreakAll |

| | | |
|-------------------------|---------------------------|-----------------------------|
| Delete all breakpoints | Ctrl+Shift+F9 | Debug.DeleteAllBreakpoints |
| Exceptions | Ctrl+Alt+E | Debug.Exceptions |
| Quick watch | Ctrl+Alt+Q or Shift+F9 | Debug.QuickWatch |
| Restart | Ctrl+Shift+F5 | Debug.Restart |
| Run to cursor | Ctrl+F10 | Debug.RunToCursor |
| Set next statement | Ctrl+Shift+F10 | Debug.SetNextStatement |
| Start | F5 | Debug.Start |
| Start without debugging | Ctrl+F5 | Debug.StartWithoutDebugging |
| Step into | F11 | Debug.StepInto |
| Step out | Shift+F11 | Debug.StepOut |
| Step over | F10 | Debug.StepOver |
| Stop debugging | Shift+F5 | Debug.StopDebugging |
| Toggle breakpoint | F9 | Debug.ToggleBreakpoint |

1.5.3 EDIT:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|-------------------------|--|----------------------------|
| Break line | Enter [Text Editor, Report Designer, Windows Forms Designer] or Shift+Enter [Text Editor] | Edit.BreakLine |
| Collapse to definitions | Ctrl+M, Ctrl+O [Text Editor] | Edit.CollapseToDefinitions |

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| | | |
|---------------------|--|------------------------|
| Comment selection | Ctrl+K, Ctrl+C [Text Editor] | Edit.CommentSelection |
| Complete word | Alt+Right Arrow [Text Editor, Workflow Designer] or Ctrl+Spacebar [Text Editor, Workflow Designer] or Ctrl+K, W [Workflow Designer] or Ctrl+K, Ctrl+W [Workflow Designer] | Edit.CompleteWord |
| Copy | Ctrl+C or Ctrl+Insert | Edit.Copy |
| Cut | Ctrl+X or Shift+Delete | Edit.Cut |
| Delete | Delete [Team Explorer] or Shift+Delete [Sequence Diagram, UML Activity Diagram, Layer Diagram] or Ctrl+Delete [Class Diagram] | Edit.Delete |
| Find | Ctrl+F | Edit.Find |
| Find all references | Shift+F12 | Edit.FindAllReferences |
| Find in files | Ctrl+Shift+F | Edit.FindinFiles |
| Find next | F3 | Edit.FindNext |
| Find next selected | Ctrl+F3 | Edit.FindNextSelected |
| Format document | Ctrl+K, Ctrl+D [Text Editor] | Edit.FormatDocument |

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| | | |
|-------------------------|---|---------------------------|
| Format selection | Ctrl+K, Ctrl+F [Text Editor] | Edit.FormatSelection |
| Go to | Ctrl+G | Edit.GoTo |
| Go to declaration | Ctrl+F12 | Edit.GoToDeclaration |
| Go to definition | F12 | Edit.GoToDefinition |
| Go to find combo | Ctrl+D | Edit.GoToFindCombo |
| Go to next location | F8 | Edit.GoToNextLocation |
| Insert snippet | Ctrl+K, Ctrl+X | Edit.InsertSnippet |
| Insert tab | Tab [Report Designer, Windows Forms Designer, Text Editor] | Edit.InsertTab |
| Line cut | Ctrl+L [Text Editor] | Edit.LineCut |
| Line down extend column | Shift+Alt+Down Arrow [Text Editor] | Edit.LineDownExtendColumn |
| Line open above | Ctrl+Enter [Text Editor] | Edit.LineOpenAbove |
| List members | Ctrl+J [Text Editor, Workflow Designer] or Ctrl+K, Ctrl+L [Workflow Designer] or Ctrl+K, L [Workflow Designer] | Edit.ListMembers |
| Navigate to | Ctrl+, | Edit.NavigateTo |
| Open file | Ctrl+Shift+G | Edit.OpenFile |
| Overtyping mode | Insert [Text Editor] | Edit.OvertypingMode |
| Parameter info | Ctrl+Shift+Spacebar [Text Editor, Workflow Designer] or Ctrl+K, Ctrl+P [Workflow Designer] or Ctrl+K, P [Workflow Designer] | Edit.ParameterInfo |

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| | | |
|----------------------------|---|-------------------------------|
| Paste | Ctrl+V or Shift+Insert | Edit.Paste |
| Peek definition | Alt+F12 [Text Editor] | Edit.PeekDefinition |
| Redo | Ctrl+Y or Shift+Alt+Backspace or Ctrl+Shift+Z | Edit.Redo |
| Replace | Ctrl+H | Edit.Replace |
| Select all | Ctrl+A | Edit.SelectAll |
| Select current word | Ctrl+W [Text Editor] | Edit.SelectCurrentWord |
| Selection cancel | Esc [Text Editor, Report Designer, Settings Designer, Windows Forms Designer, Managed Resources Editor] | Edit.SelectionCancel |
| Surround with | Ctrl+K, Ctrl+S (available only in Visual Studio 2019 and earlier) | Edit.SurroundWith |
| Tab left | Shift+Tab [Text Editor, Report Designer, Windows Forms Editor] | Edit.TabLeft |
| Toggle all outlining | Ctrl+M, Ctrl+L [Text Editor] | Edit.ToggleAllOutlining |
| Toggle bookmark | Ctrl+K, Ctrl+K [Text Editor] | Edit.ToggleBookmark |
| Toggle completion mode | Ctrl+Alt+Space [Text Editor] | Edit.ToggleCompletionMode |
| Toggle outlining expansion | Ctrl+M, Ctrl+M [Text Editor] | Edit.ToggleOutliningExpansion |
| Uncomment selection | Ctrl+K, Ctrl+U [Text Editor] | Edit.UncommentSelection |
| Undo | Ctrl+Z or Alt+Backspace | Edit.Undo |
| Word delete to end | Ctrl+Delete [Text Editor] | Edit.WordDeleteToEnd |

| | | |
|----------------------|------------------------------|------------------------|
| Word delete to start | Ctrl+Backspace [Text Editor] | Edit.WordDeleteToStart |
|----------------------|------------------------------|------------------------|

1.5.4 FILE: POPULAR SHORTCUTS:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|---------------------|---------------------------------------|------------------------|
| Exit | Alt+F4 | File.Exit |
| New file | Ctrl+N | File.NewFile |
| New project | Ctrl+Shift+N | File.NewProject |
| New web site | Shift+Alt+N | File.NewWebSite |
| Open file | Ctrl+O | File.OpenFile |
| Open project | Ctrl+Shift+O | File.OpenProject |
| Open web site | Shift+Alt+O | File.OpenWebSite |
| Rename | F2 [Team Explorer] | File.Rename |
| Save all | Ctrl+Shift+S | File.SaveAll |
| Save selected items | Ctrl+S | File.SaveSelectedItems |
| View in browser | Ctrl+Shift+W | File.ViewinBrowser |

1.5.5 PROJECT:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|-------------------|---------------------------------------|-------------------------|
| Add existing item | Shift+Alt+A | Project.AddExistingItem |
| Add new item | Ctrl+Shift+A | Project.AddNewItem |

1.5.6 REFACTOR:

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| Command | Keyboard shortcut [Special contexts] | Command ID |
|----------------|--------------------------------------|------------------------|
| Extract method | Ctrl+R, Ctrl+M | Refactor.ExtractMethod |

1.5.7 TOOLS:

| Command | Keyboard shortcut [Special contexts] | Command ID |
|-------------------|--------------------------------------|-----------------------|
| Attach to process | Ctrl+Alt+P | Tools.AttachtoProcess |

1.5.8 VIEW:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|-------------------|--|-----------------------|
| Class view | Ctrl+Shift+C | View.ClassView |
| Edit label | F2 | View.EditLabel |
| Error list | Ctrl+\, Ctrl+E or Ctrl+\, E | View.ErrorList |
| Navigate backward | Ctrl+- | View.NavigateBackward |
| Navigate forward | Ctrl+Shift+- | View.NavigateForward |
| Object browser | Ctrl+Alt+J | View.ObjectBrowser |
| Output | Ctrl+Alt+O | View.Output |
| Properties window | F4 | View.PropertiesWindow |
| Refresh | F5 [Team Explorer] | View.Refresh |
| Server explorer | Ctrl+Alt+S | View.ServerExplorer |
| Show smart tag | Ctrl+. or Shift+Alt+F10 [HTML Editor Design View] | View.ShowSmartTag |
| Solution explorer | Ctrl+Alt+L | View.SolutionExplorer |
| TFS Team Explorer | Ctrl+\, Ctrl+M | View.TfsTeamExplorer |
| Toolbox | Ctrl+Alt+X | View.Toolbox |
| View code | Enter [Class Diagram] or F7 [Settings Designer] | View.ViewCode |

| | | |
|---------------|------------------------------------|-------------------|
| View designer | Shift+F7 [HTML Editor Source View] | View.ViewDesigner |
|---------------|------------------------------------|-------------------|

1.5.9 WINDOW:

| Commands | Keyboard shortcuts [Special contexts] | Command ID |
|--------------------------|---------------------------------------|-------------------------------|
| Activate document window | Esc | Window.ActivateDocumentWindow |
| Close document window | Ctrl+F4 | Window.CloseDocumentWindow |
| Next document window | Ctrl+F6 | Window.NextDocumentWindow |
| Next document window nav | Ctrl+Tab | Window.NextDocumentWindowNav |
| Next split pane | F6 | Window.NextSplitPane |

PROJECT TYPES

2.1 WINDOWS APP, CLASS LIBRARY: