Contents

Visual Studio Operating System environments

Visual Studio **IDE** runs only in a **Windows environment** and runs best on a mid-level machine [computer] with lots of RAM. Gamers will have no problems. Those with older or modestly spec'd machines may find Visual Studio IDE *walks* instead of runs.

The latter Windows users**,** and **macOS** or **Linux** users, should use **Visual Studio Code**. Although the cross-platform Visual Studio Code is not officially supported or used in our school, it is becoming a viable alternative to Visual Studio IDE for many who use macOS or Linux, or even Windows running on older or lower powered machines. ("machine" is geek speak for any computer.)

See these videos on installing Visual Studio Code:
https://www.youtube.com/results?search_query=install+visual+studio+code+**macOS**
https://www.youtube.com/results?search_query=install+visual+studio+code+**windows**

Students are no longer licensed for the Windows OS to upgrade their own PCs or to run Windows as a second OS with macOS or Linux. *Complain to your student council.*

Visual Studio IDE Installation (Windows only)

We recommend you install **Visual Studio IDE**, Community Edition, on your Windows computer for programming in the C language. An IDE is an Integrated Development Environment which is far more than a coding editor. Visual Studio is a "fully-featured, extensible, free IDE for creating modern applications for Android, iOS, Windows, as well as web applications and cloud services." We use it in all our programming courses because it is one of the world's most highly rated and most used software development tools popular among both professionals and students. The C programming course lectures, workshops, and how-to instructions all assume the use of Visual Studio IDE.

Microsoft has notes for [Getting Started with Visual Studio for C and C++ Development](#) which you can explore.

Visual Studio IDE Installation

Start your installation of Visual Studio Community or Visual Studio Code from https://visualstudio.microsoft.com/. *Installing* "Visual Studio for macOS" *will waste your time – despite the name, it is not the same thing as VS IDE or VS Code.*

- Select the Workload, Desktop & Mobile, "**Desktop development with C++**
  - o Use the [TAB] key to move to a section of the dialog and the arrow keys to move within a section. Use the space-bar to select.
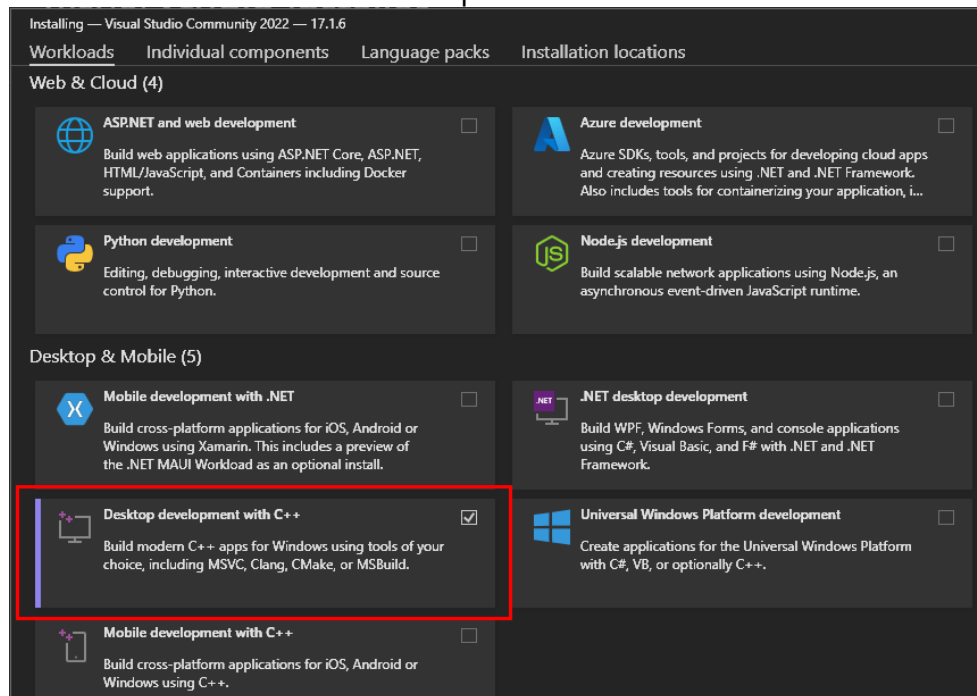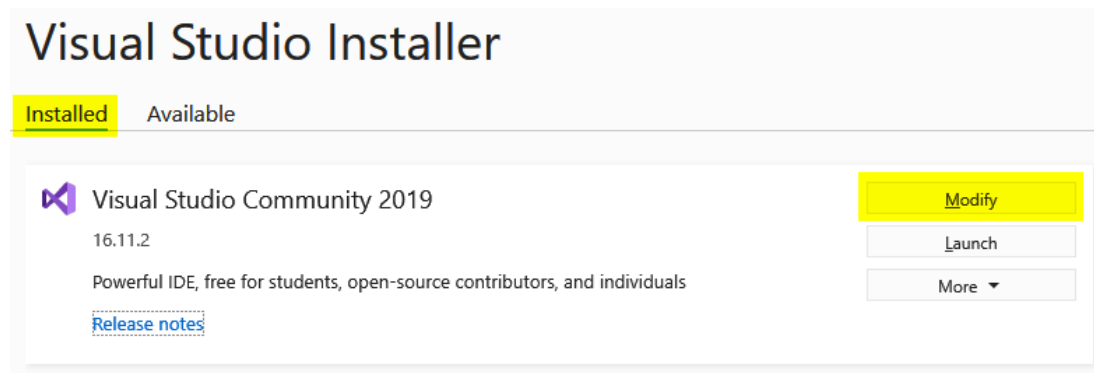

• Check these "Optional" components needed for C programming
   o MSVC v### [the most current version of build tools] for your processor
   o Windows 10 SDK [the most current version]
   o Just-In-Time debugger
   o C++ profiling tools
   o IntelliCode
   o C++ AddressSanitizer	

• Uncheck the following to save ~832MB of storage and reduce the background load on your system.
    o C++ CMake tools for Windows
    o C++ ATL for latest v000 build tools
    o Test Adapter for Boost Test
    o Test Adapter for Google Test
    o Live Share

Installation details
‣ Visual Studio core editor
▾ Desktop development with C++
    ▾ Included
      ✓ C++ core desktop features
    ▾ Optional
      ☑ MSVC v142 - VS 2019 C++ x64/x86 build t...
      ☑ Windows 10 SDK (10.0.19041.0)
      ☑ Just-In-Time debugger
      ☑ C++ profiling tools
      ☐ C++ CMake tools for Windows
      ☐ C++ ATL for latest v142 build tools (x86 &...
      ☐ Test Adapter for Boost.Test
      ☐ Test Adapter for Google Test
      ☐ Live Share
      ☑ IntelliCode
      ☑ C++ AddressSanitizer

If the above was missed on the initial install,
run "Visual Studio Installer" > Modify to change Visual Studio components.

Visual Studio Installer

Installed   Available

|	
◩ Visual Studio Community 2019 16.11.2 Powerful IDE, free for students, open-source contributors, and individuals Release notes	Modify Launch More ▾

Windows Security / Microsoft Defender or other anti-malware anti-virus utilities

Security utilities sometimes prevent new executable files, like you create from C programming, from running on your system. Add an Exclusion for the Visual Studio projects folder.
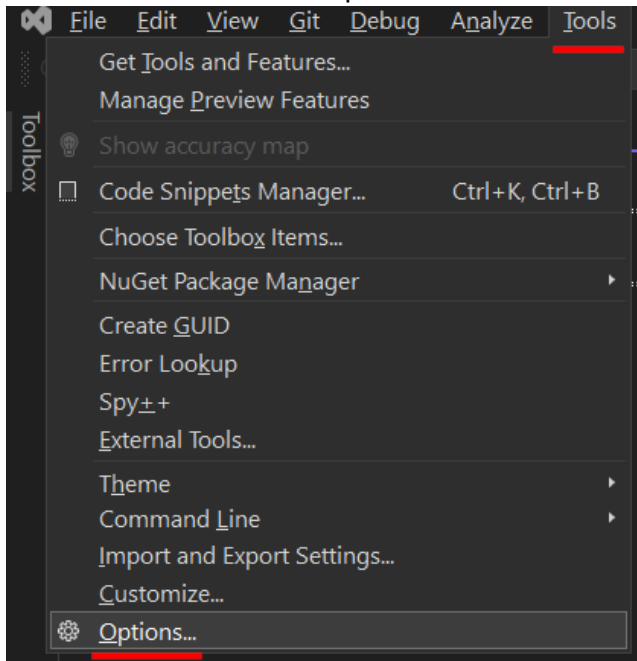
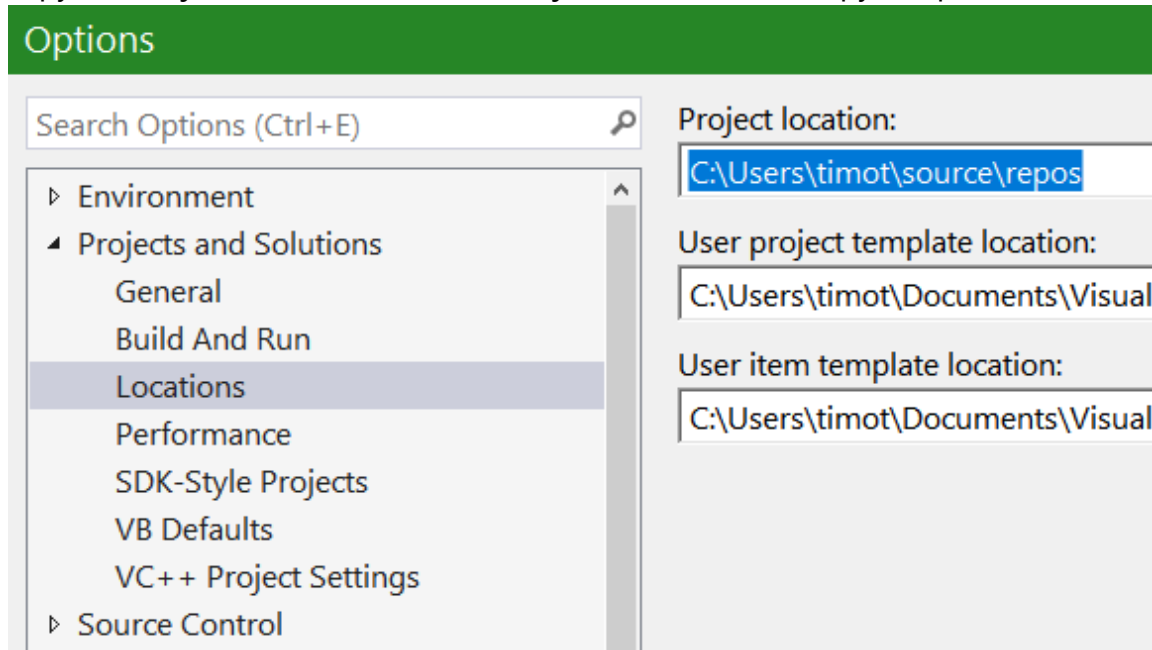# Configure Visual Studio

continue without code →
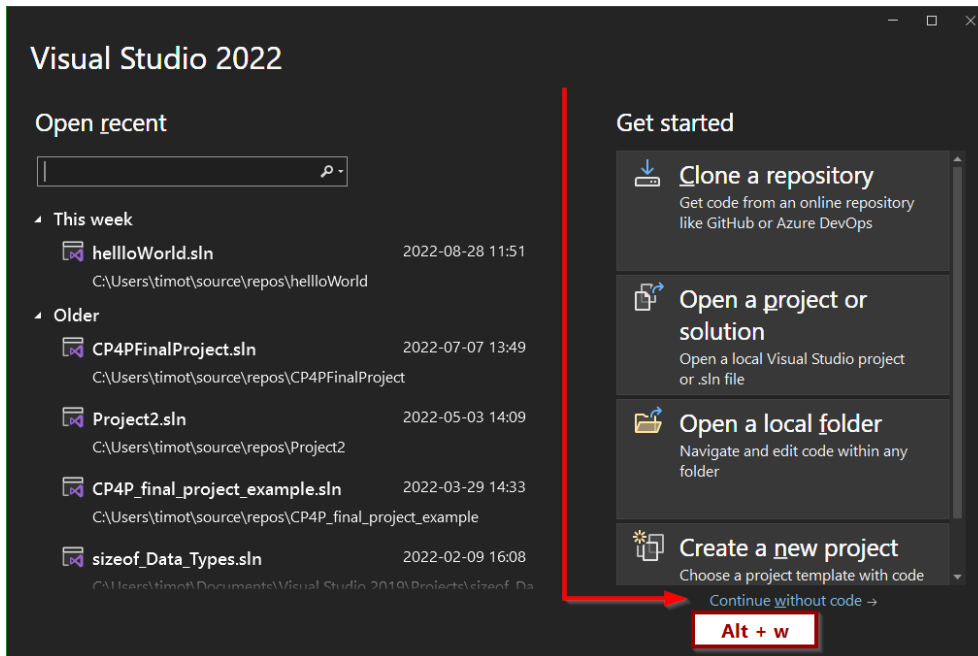
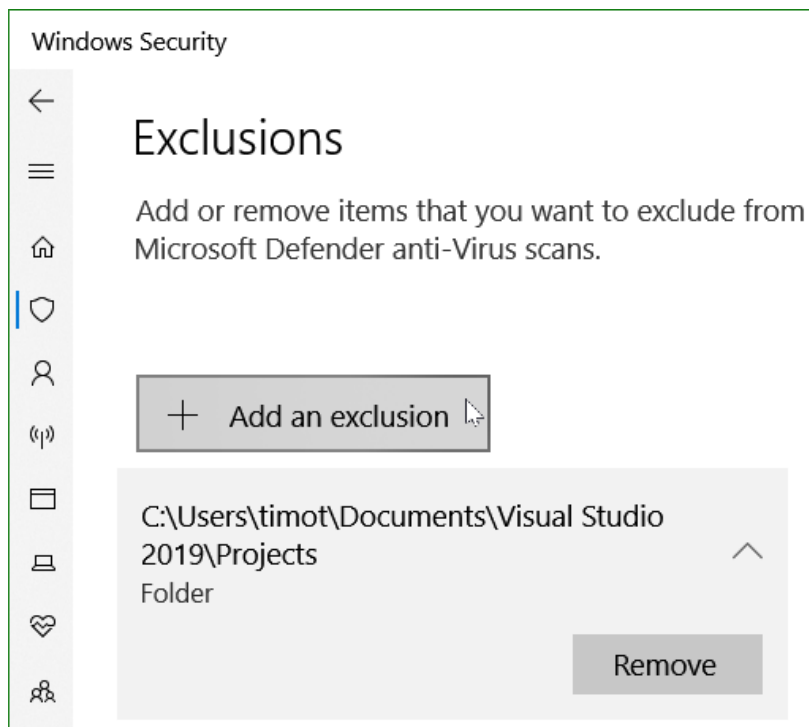use VS menu: Tools > Options   [Alt + T O]

> Projects and Solutions > Locations
[left arrow to collapse Environment, down to Projects and Solutions, right to expand]
Copy the Projects location [TAB to Project Location and copy the path Ctrl + AC]

Options

Search Options (Ctrl+E)

Project location:
C:\Users\timot\source\repos

▷ Environment
◢ Projects and Solutions
   General
   Build And Run
   Locations
   Performance
   SDK-Style Projects
   VB Defaults
   VC++ Project Settings
▷ Source Control

User project template location:
C:\Users\timot\Documents\Visual

User item template location:
C:\Users\timot\Documents\Visual

Add an exclusion to your PC's security app for the Project location:

Windows Security

←

Exclusions

Add or remove items that you want to exclude from
Microsoft Defender anti-Virus scans.

+ Add an exclusion

C:\Users\timot\Documents\Visual Studio
2019\Projects
Folder

Remove

Visual Studio customization

Start Visual Studio and Customize the editor.

```
                                    #include <stdio.h>  // Input/Output

                                    int main(void)
SDDS uses this style of braces      {
        printf("Hello, World!\n");

                                    }
```

```
                                    #include <stdio.h>  // Input/Ouput

instead of the traditional K&R      int main(void) {
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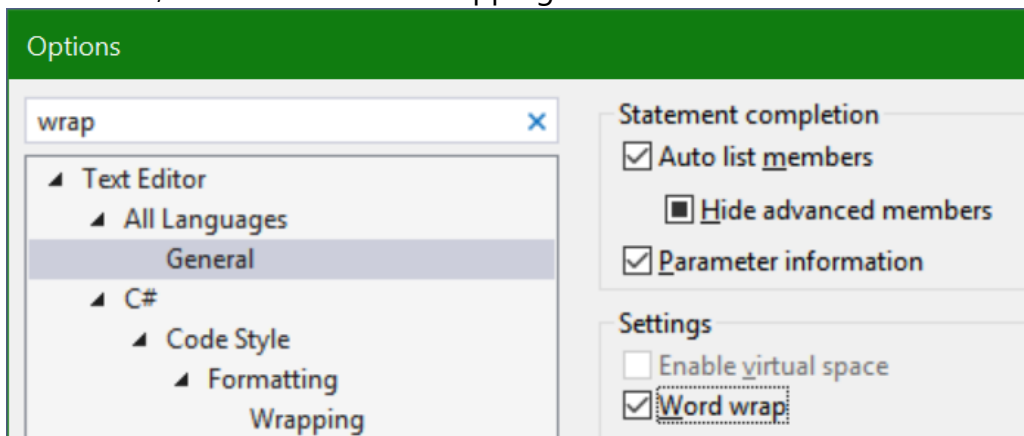Override the default VS option to control the formatting behaviour...

Alt + **T** for the Tools menu. **O** for Options

Use TAB key to move between sections of the following dialogues. Use Up/Down arrows to move within a section of the dialogue. Use the spacebar to select items.
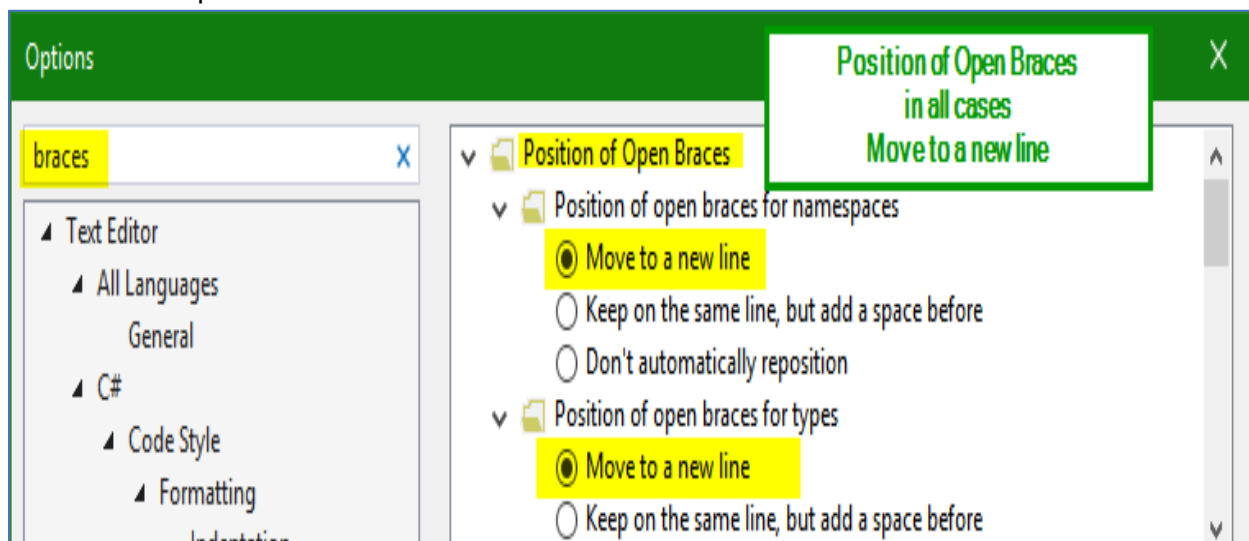

Text Editor / All Languages / General

Text Editor,– default to Word wrapping in all cases.

Text Editor / **C/C++** / **Formatting** / **New Lines** /

"Position of open braces" –> select **Move to a new line** in all cases

Text Editor / **C/C++** / **Formatting** / **Wrapping** /

– Always apply New Lines Setting for blocks

N.B. If you set up the editor to be 8 pt purple text on a black background, it may look cool but do not ask anyone over the age of 25 to look at your code.

A simple way to make it easy for others to see your code is to zoom in. Use Ctrl with the mouse wheel (up to zoom in, down to zoom out).

There is also a zoom control in the bottom-left of the code editor.

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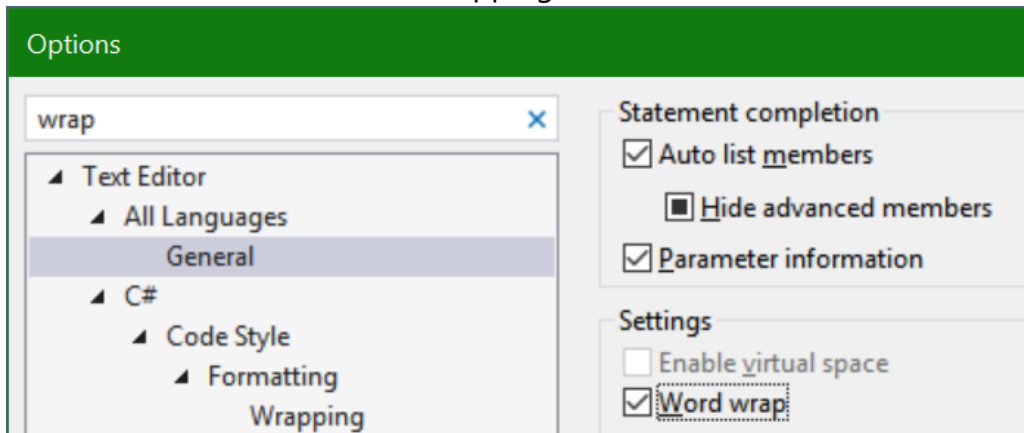**Alt** + **T** for the Tools menu. **O** for Options

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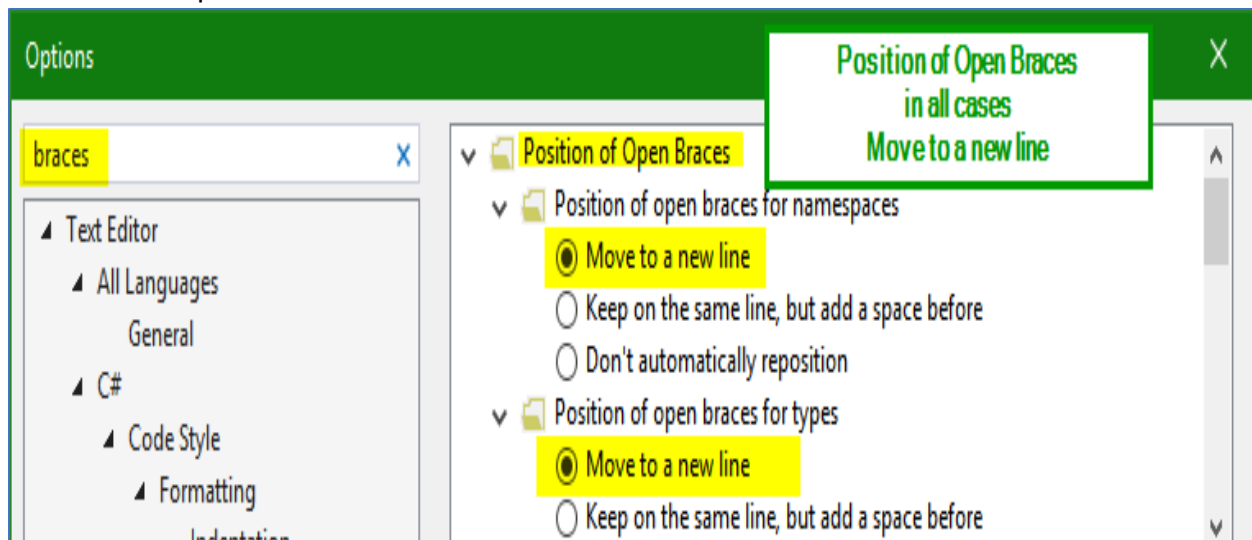
Text Editor / All Languages / General

Text Editor,– default to Word wrapping in all cases.

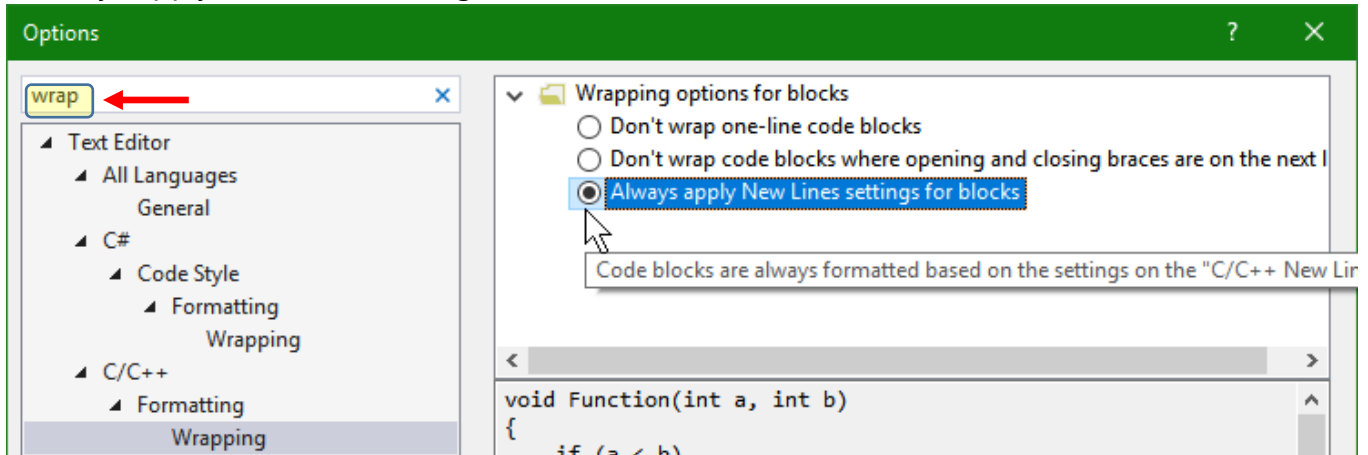**Text Editor** / **C/C++** / **Formatting** / **New Lines** /

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Visual Studio can also edit HTML in Design and/or Source mode.

Use Solution Explorer to open a Folder View to .html files.

R-click on any .html file and select Open With...

select HTML (Web Forms) Editor, click Set as Default.