



COMPUTER  
SCIENCE  
SOCIETY

COMPUTER SCIENCE SOCIETY

# Setting up VSCode Workshop

FIRST YEAR BOOTCAMP - WORKSHOP #1



## MEET THE PRESENTER

# Kelly Owenya



Hi everyone! I'm a first year at UWindsor, majoring in Computer Science and minoring in Business. I'm also your first year Computer Science Society Representative! Feel free to contact me at any of the socials listed here!



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# General Information!

What is VSCode, and why do I want to use it?



# What is VSCode?

Visual Studio Code is a source-code editor made by Microsoft for Windows, Linux and macOS. It's redefined and optimized for building and debugging modern web and cloud applications. Also, Visual Studio Code is free, fast and open-source!





# Why do I need it?

	NoMachine	Visual Studio Code
Fast user experience	✗	✓
Great graphics and user interface	✗	✓
Easy accessibility of files	✗	✓
Code Intellisense and Auto-Completion	✗	✓
Full Customization using Extensions	✗	✓



# What is MinGW?

MinGW provides, among other things, the library(ies) needed for making a C implementation together with gcc.



To compile a C program you need a C implementation for your specific computer. C implementations consist, basically, of a compiler (its preprocessor and headers) and a library (the ready-made executable code). On a computer with Windows installed, the library that contains most ready-made executable code is, unfortunately, not compatible with the gcc compiler. So...to use this compiler in Windows you need a different library: that's where MinGW enters.

Home / Browse / Development / Build Tools / MinGW - Minimalist GNU for Windows / Files

## MinGW - Minimalist GNU for Windows

A native Windows port of the GNU Compiler Collection (GCC)

Brought to you by: cstrauss, cwilso11, earnie, keithmarshall

Summary Files Reviews Support News Wiki Mailing Lists Tickets ▾ Git ▾

Looking for the latest version? [Download mingw-get-setup.exe \(86.5 kB\)](#)

Name	Modified	Size	Downloads / Week
MinGW	2013-10-26		
Installer	2013-10-04		
Other	2011-11-13		
MSYS	2011-11-13		
README	2011-11-13	896 Bytes	301 <input type="checkbox"/> <span>i</span>
Totals: 5 Items		896 Bytes	301





# Installing and Setting Up VSCode!

Now that we know what it is, let's get to using it!

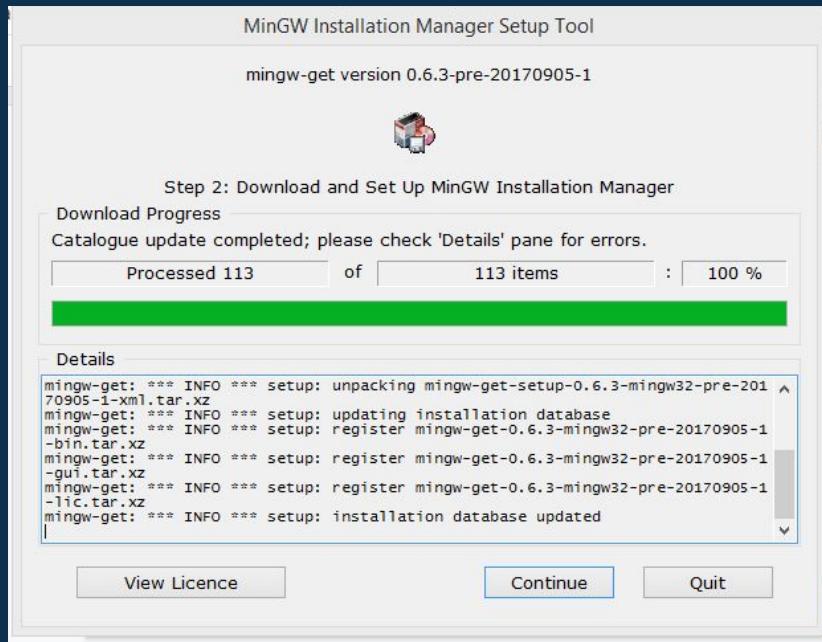


Link to install MinGW:  
<https://osdn.net/projects/mingw/releases/>

Go through the installation wizard!

IF you change the installation directory (I wouldn't), but if you must - PLEASE write it down somewhere. It's very important that you remember it for a future step!

The screenshot shows a Windows desktop with a browser window open to the MinGW project page on osdn.net. The page displays the 'Download List' for MinGW. A yellow circle highlights the download link for 'mingw-get-setup.exe'. The file was last updated on 2017-09-06 and has a size of 91.00 KB. To the right of the download link is a review section showing a rating of 3.9 based on 58 reviews. The desktop taskbar at the bottom shows various pinned icons, including File Explorer, Google Chrome, and Microsoft Office applications.



While it's installing, it takes a pretty long time. Leave it on in the background, and let's come back to it later.

# Code editing. Redefined.

Free. Built on open source. Runs everywhere.

Download for Windows

Stable Build



Other platforms and Insiders Edition

By using VS Code, you agree to its  
license and privacy statement.

The screenshot shows the Visual Studio Code interface. On the left, there's a sidebar titled 'EXTENSIONS MARKETPLACE' listing several extensions: Python, GitLens — Git supercharged, C/C++, ESLint, Debugger for Chrome, and Language Support for Java. The main area shows a code editor with three tabs: 'App.js', 'index.js', and 'serviceWorker.js'. The 'serviceWorker.js' tab contains the following code:

```
src > JS serviceWorker.js > register > window.addEventListener('load') callback
checkValidServiceWorker(swUrl, config);

// Add some additional logging to localhost, per
// service worker/PWA documentation.
navigator.serviceWorker.ready.then(() => {

  product
  productSub
  removeSiteSpecificTrackingException
  removeWebWideTrackingException
  requestMediaKeySystemAccess
  sendBeacon
  serviceWorker (property) Navigator.serviceWorker
  storage
  storeSiteSpecificTrackingException
  storeWebWideTrackingException
} userAgent
} vendor

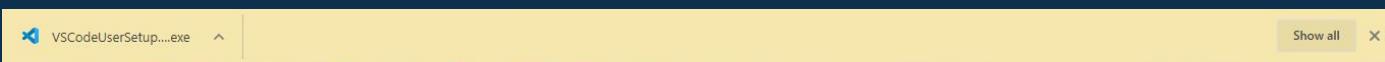
function registerValidSW(swUrl, config) {
  navigator.serviceWorker
```



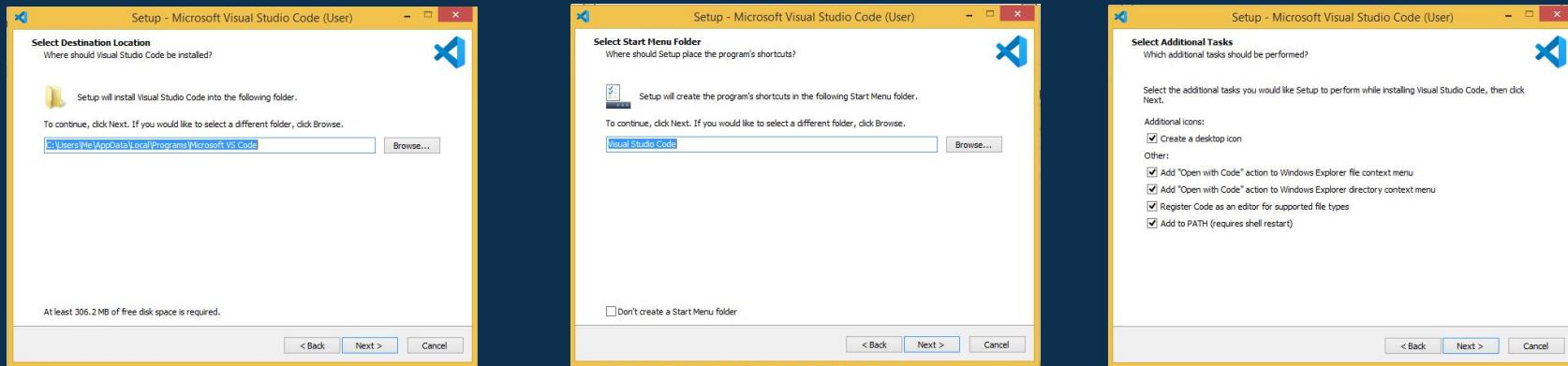
Link to install VSCode:

<https://code.visualstudio.com/>

You can also install it for other platforms if you have a Mac or Linux operating system by clicking the arrow beside it.



It'll show up in your downloads bar (if you're on Chrome or a similar browser). Wait for it to download.



Follow the setup wizard process! **Keep everything the same as these pictures** (unless you must).

Now, wait for it to finish installing, and launch it!



 **Get Started with VS Code**

Discover the best customizations to make VS Code yours.

**Choose the look you want**

The right color palette helps you focus on your code, is easy on your eyes, and is simply more fun to use.

[Browse Color Themes](#)

Tip: Use keyboard shortcut (Ctrl+K Ctrl+T)

**Sync to and from other devices**

**One shortcut to access everything**

**Rich support for all your languages**

**Open up your code**

 Light

 Dark

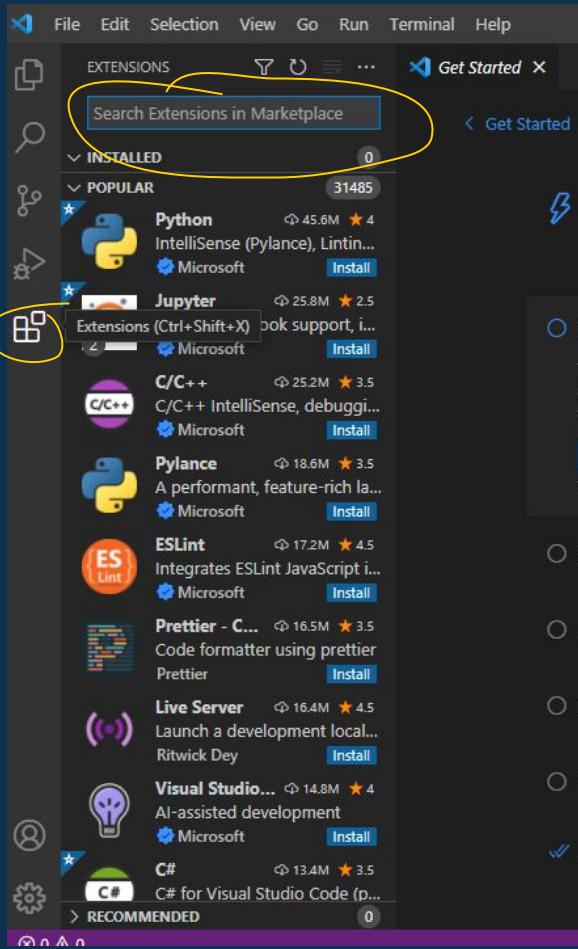
 High Contrast

[See More Themes...](#)

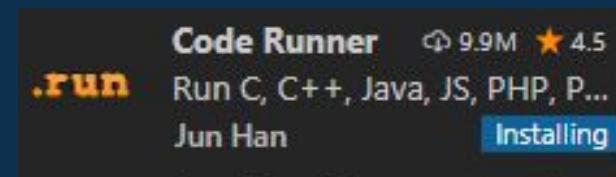
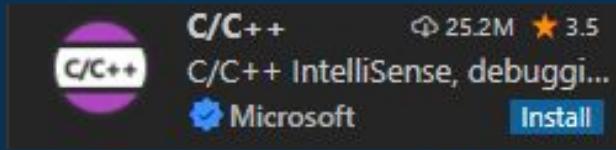
 [Mark Done](#)

[Next Section →](#)

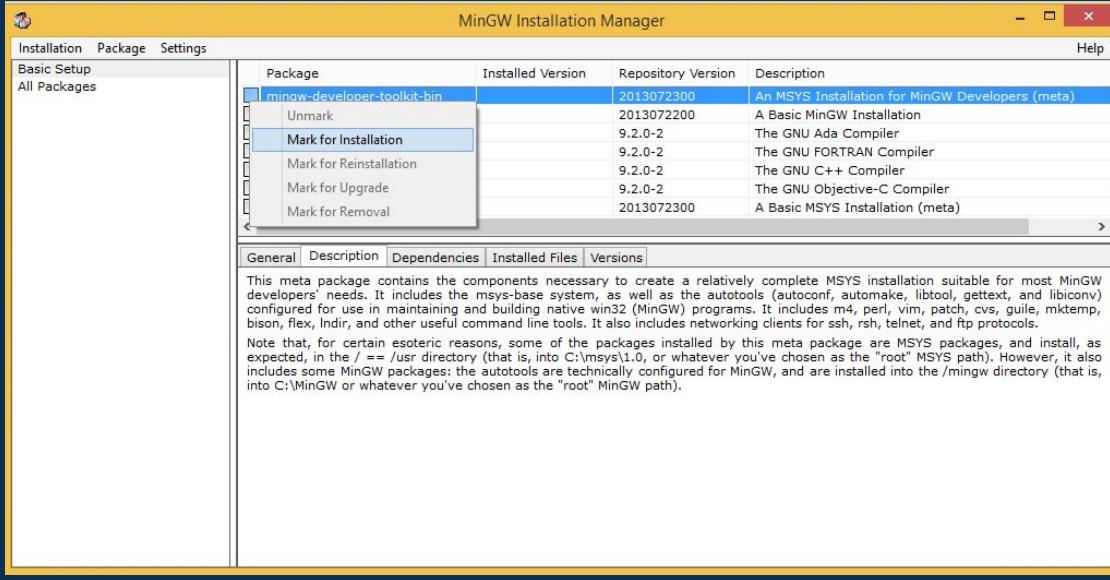
You can skip the “Get Started w/ VS Code” Menu for now. Don’t mark it all as done though, in case you want to return to it. Feel free to choose your theme though!



Open the Extensions Menu by clicking on the four squares icon on the left side of the screen, and search for and install these four extensions!



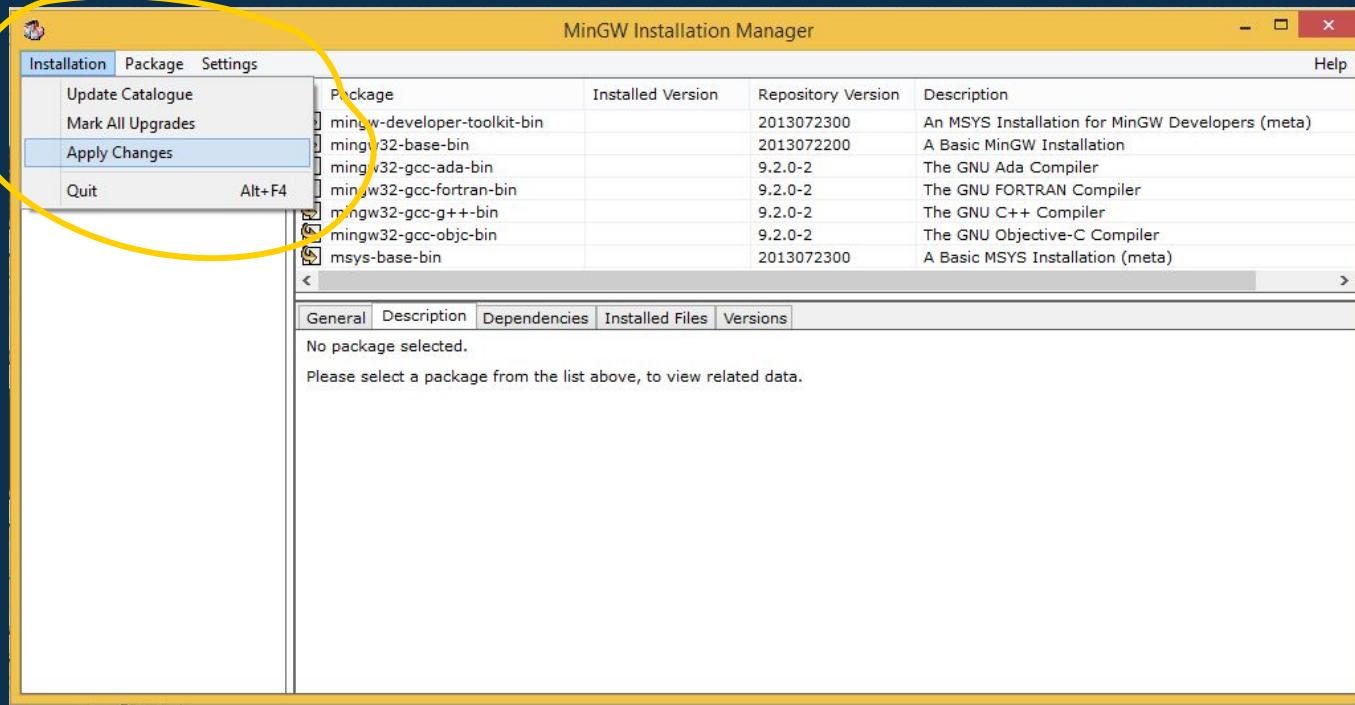
If you install Remote - SSH, Remote - SSH Editing Configuration Files *should* install automatically.



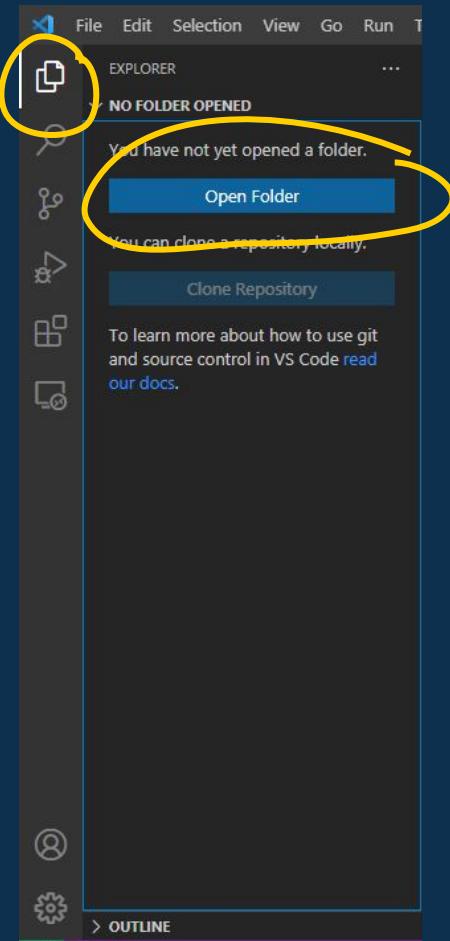
Let's check on MinGW!

Mark these packages for installation (in Basic Setup):

- mingw-developer-toolkit-bin
- mingw32/64-base-bin
- mingw32/64-gcc-g++-bin
- mingw32/64-gcc-objc-bin
- msys-base-bin



Click “Apply Changes” and let it run in the background again! (This also takes a long time.)



Open VSCode again, because it's time to...  
Set up your workspace!

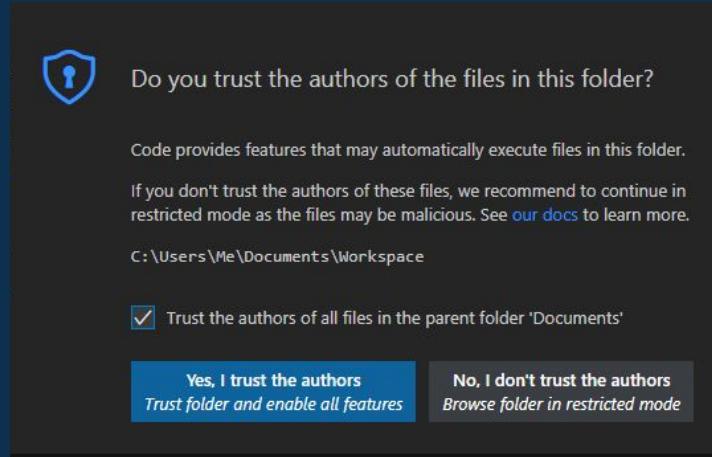
1. Go to Explorer (the paper icon in the top left).
2. Select “Open Folder”.
3. Navigate to your Documents Folder and create a new folder. Name it Workspace. **This is where all your VSCode files and projects will be located! So, choose the location wisely.**

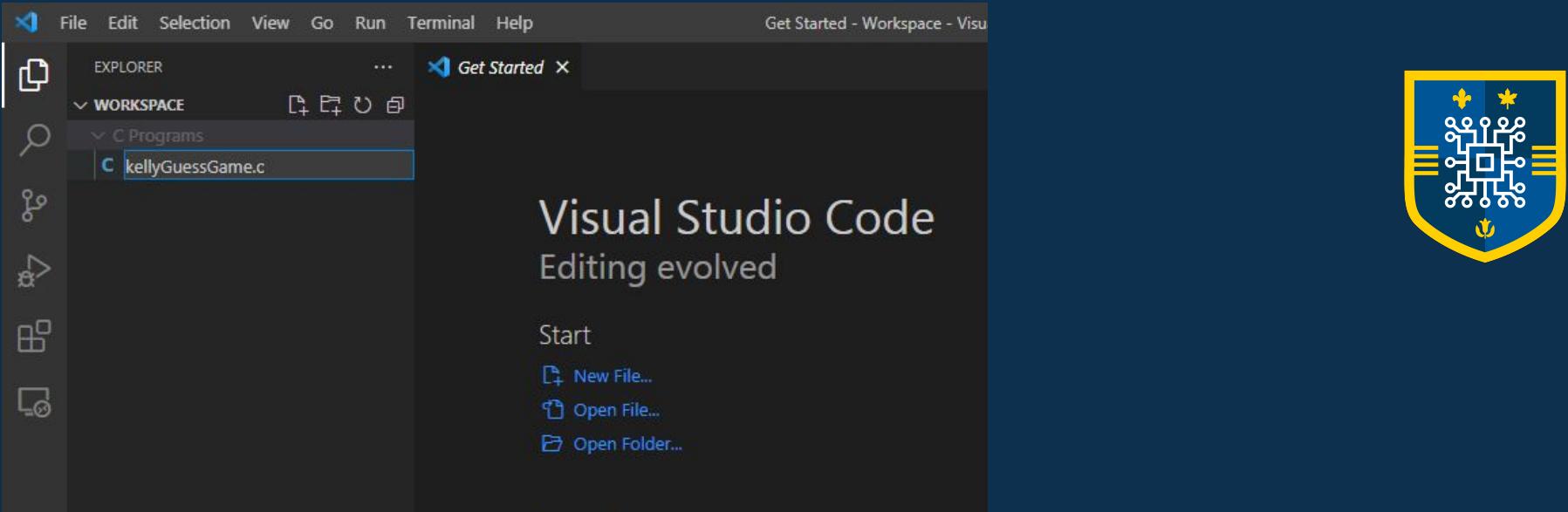
# “Do you trust... yourself?”

- *VSCode*

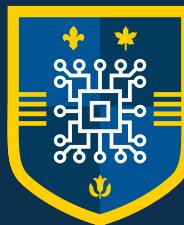


(Say yes, PLEASE.)





1. Make a folder by clicking on the folder icon with a plus on it. Call it “C Programs” or whatever you’d like (to hold all your programs in C). This is just for organization’s sake.
2. Here’s a link to a C Program I made for you to test out the features of VSCode!  
[https://drive.google.com/file/d/1ljVxOk7mtdiVyN\\_27prL8mF7A-FukmZr/view?usp=sharing](https://drive.google.com/file/d/1ljVxOk7mtdiVyN_27prL8mF7A-FukmZr/view?usp=sharing)
3. Make a new file by clicking on the paper icon with a plus on it. Name it “kellyGuessGame.c”. (The .c turns it into a C file).
4. Copy and paste the text from the C Program I made into your new file.

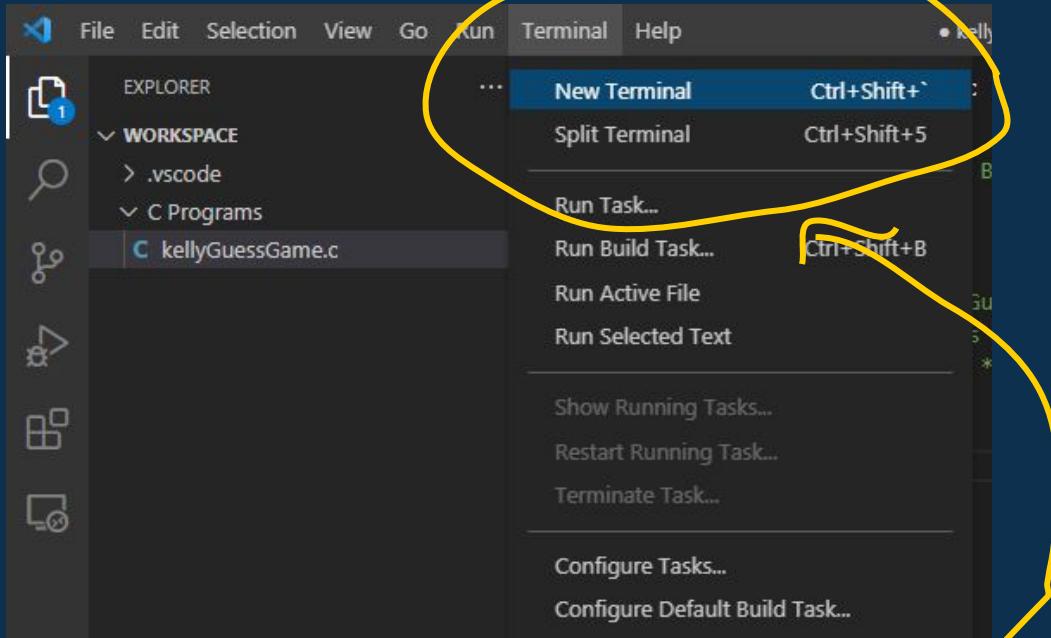


The screenshot shows the Visual Studio Code interface. The top bar includes the File, Edit, Selection, View, Go, Run, Terminal, and Help menus. The title bar displays "kellyGuessGame.c - Workspace - Visual Studio Code". The Explorer sidebar on the left has a folder icon with a red circle containing the number "1", indicating an uncommitted change. The workspace tree shows ".vscode", "C Programs", and "kellyGuessGame.c" (which is also highlighted with a red circle). The main editor area shows the file "kellyGuessGame.c" with the following content:

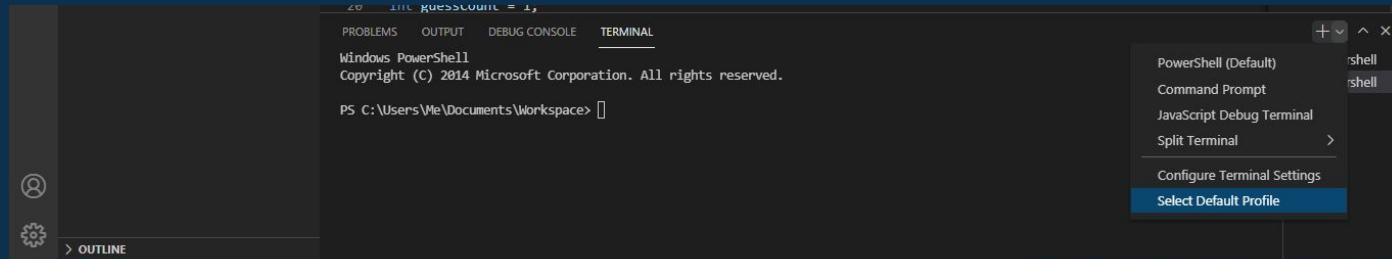
```
1  /* 10-Turn Guessing Game Between 1 and 50
2  Developer: Kelly Owenya
3  Version: 1
4  Date: October 10th, 2021
```

These all mean your program is *unsaved*!

To save your program: use **Ctrl + S.**



Open a new terminal by clicking here!



Powershell is not that great for our purposes, so let's permanently change it to Command Prompt (which has the same/similar commands to NoMachine). It's as simple as...

1. Open the small arrow next to the plus sign in the terminal, and select “Select Default Profile”.
2. Select “Command Prompt” when it appears!

A screenshot of the Visual Studio Code terminal interface. The title bar says 'Terminal Help kellyGuessGame.c - Workspace - Visual Studio Code'. Below the title bar, there is a search bar with the placeholder 'Select your default terminal profile'. A dropdown menu lists several terminal profiles:

- C Program:  Command Prompt C:\Windows\System32\cmd.exe
- 1 /  PowerShell C:\Windows\System32\WindowsPowerShe C:\Windows\System32\cmd.exe
- 2 D  JavaScript Debug Terminal
- 3 V  Windows PowerShell C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe

The 'Command Prompt' option is currently selected. The bottom of the terminal window shows some code:

```
5 Program File Name: kellyGuessGame.c
6 Developer Notes: This was my lab 7 assignment for COMP-1400, and is also going to be the
7 the features of VS Code! */
```



PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Microsoft Windows [Version 6.3.9600]  
(c) 2013 Microsoft Corporation. All rights reserved.

```
C:\Users\Me\Documents\Workspace> gcc kellyGuessGame.c -o kellyGuessGame  
'gcc' is not recognized as an internal or external command,  
operable program or batch file.
```

C:\Users\Me\Documents\Workspace>

Great, let's run our program!

Let's just type in "gcc kellyGuessGame.c -o kellyGuessGame"...

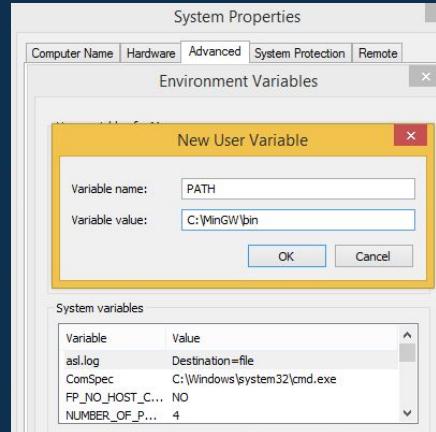
Oh no! It won't work! GCC doesn't exist??? What shall we do??!!??

# This is why we need MinGW.

# To make “gcc” work...



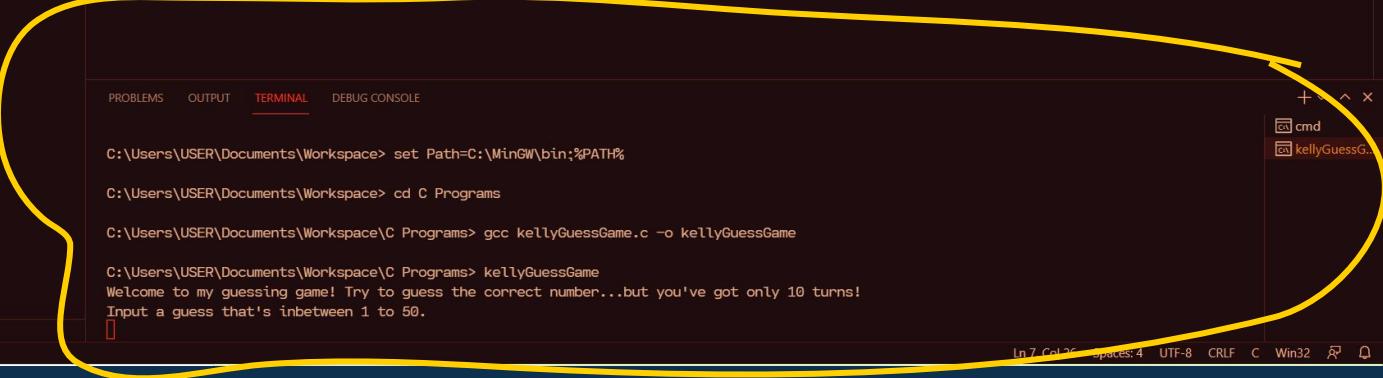
1. In your computer's search bar, type “settings” to open your Windows Settings.
2. Search for “Edit environment variables for your account”.
3. Go to Advanced, and add a new variable by selecting “New”.
4. Fill in the boxes according to the picture (if you didn't change where MinGW was installed).



Note: THIS is why it was important to remember where it was installed.  
If you installed it somewhere else - navigate to it and copy its file path!  
You want the path to the “bin” folder.

	Name	Date modified	Type	Size
★ Favorites				
Desktop				
Downloads				
Recent places				
Homegroup				
This PC				
Desktop				
Documents				
Downloads				
	bin	11/18/2021 1:48 PM	File folder	
	include	11/18/2021 1:48 PM	File folder	
	lib	11/18/2021 1:48 PM	File folder	
	libexec	11/18/2021 1:48 PM	File folder	
	mingw32	11/18/2021 1:48 PM	File folder	
	msys	11/18/2021 1:47 PM	File folder	
	share	11/18/2021 1:48 PM	File folder	
	var	11/18/2021 1:25 PM	File folder	





A screenshot of the Visual Studio Code (VSCode) interface. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The left sidebar shows the Explorer, Workspace, and Outline sections. The main editor area displays a C program named kellyGuessGame.c. The terminal window at the bottom shows the command-line process of setting the PATH, changing to the workspace directory, and compiling the program with gcc. The output of the compiled program, a guessing game, is also shown in the terminal.

```
C:\Users\USER\Documents\Workspace> set Path=C:\MinGW\bin;%PATH%
C:\Users\USER\Documents\Workspace> cd C Programs
C:\Users\USER\Documents\Workspace\C Programs> gcc kellyGuessGame.c -o kellyGuessGame
C:\Users\USER\Documents\Workspace\C Programs> kellyGuessGame
Welcome to my guessing game! Try to guess the correct number...but you've got only 10 turns!
Input a guess that's inbetween 1 to 50.
```



Copy down what's written in the terminal here. If you have another path, replace C:\MinGW\bin.

cd into your folder where the program is located, compile it using gcc and run the program!

Here's my finished installation of VSCode on my main computer. Want a VSCode that's fully customized with your own colour palette and font, and also able to connect to the school's server? **Tune in to my next workshop~**



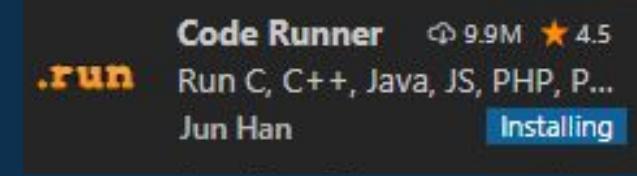
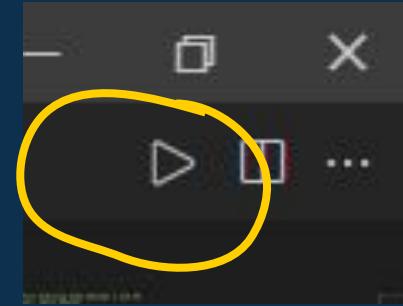
A screenshot of the Visual Studio Code interface showing a C program named "kellyGuessGame.c". The code implements a simple number guessing game. A yellow arrow points from the text "play button in top right" to the play button in the toolbar.

```
37
38     else if (playerGuess > guessGoal){
39         puts("Too high! guess again?");
40         ++guessCount;
41     }
42
43     else { //if playerGuess isn't greater or lesser than the guessGoal...it must be equal! So, the player wins
44         printf("Great! You got it! The correct number was %d.\n", guessGoal);
45         return 0; //This exits the game.
46     }
47
48     //This is displayed when the player has run out of guesses.
49     printf("Aww...too bad. The correct number was %d.\n", guessGoal);
50
51     //This exits the game.
52     return 0;
53 }
```

PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

Filter (e.g. text, \*\*/\*.ts, \*\*/\*node\_modules/\*\*)

C kellyGuessGame.c C Programs 1  
expected a ';' C/C++(65) [52, 1]



A screenshot of the Microsoft Store page for the "Code Runner" extension. The extension is rated 4.5 stars with 9.9M installs. It is described as "Run C, C++, Java, JS, PHP, Python, Go, Rust, and more". The developer is Jun Han. The status is "Installing".

**Code Runner** 9.9M 4.5

**.run** Run C, C++, Java, JS, PHP, P...

Jun Han

Installing

Feeling lazy and don't want to always have to type in "gcc whatever -o blahblah too much effort can i sleep now"?

**Be gloriously lazy and use the Code Runner button (play button in top right)!  
It auto-compiles and runs your code for you!**

File Edit Selection View Go Run Terminal Help

EXPLORER

WORKSPACE

C Programs > kellyGuessGame.c

```
37
38
39
40
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52
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```

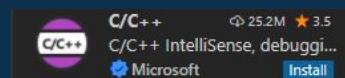
else if (playerGuess > guessGoal){  
 puts("...high. Guess again?");  
 ++guessCount;  
}  
  
else { //if playerGuess isn't greater or lesser than the guessGoal...it must be equal! So, the player wins.  
 printf("Great! You got it! The correct number was %d. :)", guessGoal);  
 return 0; //This exits the game.  
}  
  
//This is displayed when the player has run out of guesses.  
printf("Aww...too bad. The correct number was %d. :(, guessGoal)  
//This exits the game.  
return 0;

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL

C kellyGuessGame.c C Programs 1  
expected a ';' C/C++(65) [52, 1]

Filter (e.g. text, \*\*/\*.ts, !\*\*/node\_modules/\*\*)

Ln 49, Col 66 Spaces: 4 UTF-8 CRLF C Win32

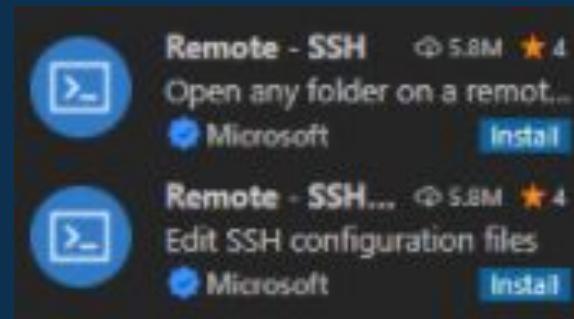


Always making small syntax errors when you code and can't figure out what's gone wrong?

**C Intellisense will catch all those nasty syntax errors for you and alert you of them before you code!**



Okay, so then, what do  
these do?





To Be Continued

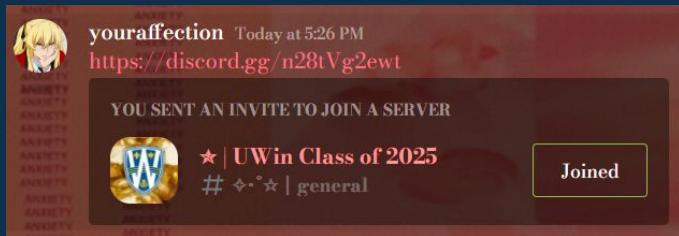
Attend my **next workshop next week**  
**(First Year Bootcamp - Workshop #2)**  
to find out!

# THANK YOU FOR JOINING US!

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## COMPUTER SCIENCE SOCIETY



*Join my first years' discord if you have questions or need help!*  
<https://discord.gg/n28tVg2ewt>