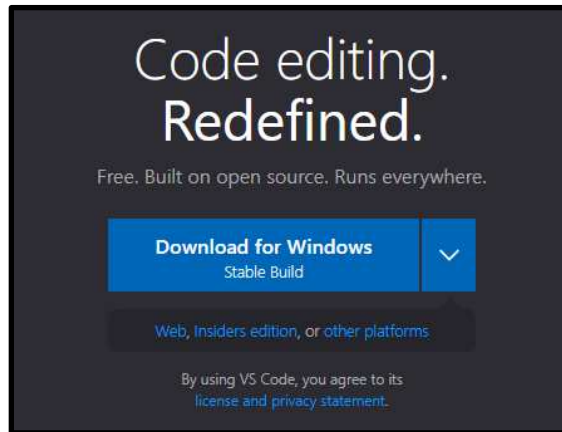# Visual Studio Code Resource Guide

Downloading Visual Studio Code

1. Visit the Visual Studio Code website: Go to the official Visual Studio Code website at https://code.visualstudio.com/
2. Download Visual Studio: Click on the "Download Visual Studio" button. This will start the download process for the Visual Studio installer.


3. Run the installer: Once the installer is downloaded, run it to start the installation process.
4. Select workloads: During the installation process, you'll be prompted to select the workloads you want to install. For Python development, make sure to select the "Python development" workload.
   a. If it does not ask you to do this wait until Visual Studio Code is downloaded and open it.
   b. Then click the extension tab (shown to the right) and type in Python to download it and press Install.


5. Finish installation: Once you've selected the workloads and components, continue with the installation process. Visual Studio will download and install the necessary files.

Set up I210 Folder for Visual Studio

1. Create an I210 folder that is NOT in your IU OneDrive (creating it in your IU OneDrive will cause errors)
    Open VS Code and select **File -> Open Folder**, and then select your I210 Folder
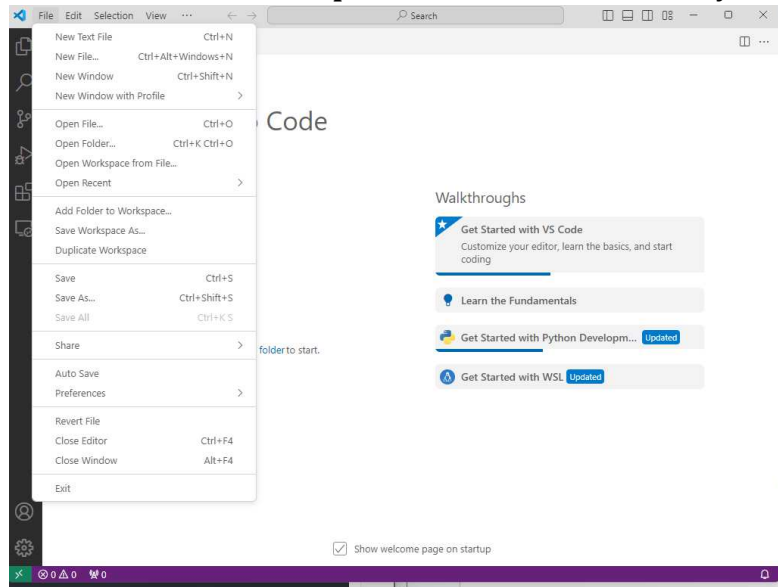
2. It may ask that you to "Trust the Folder", select "Yes, I trust the authors"
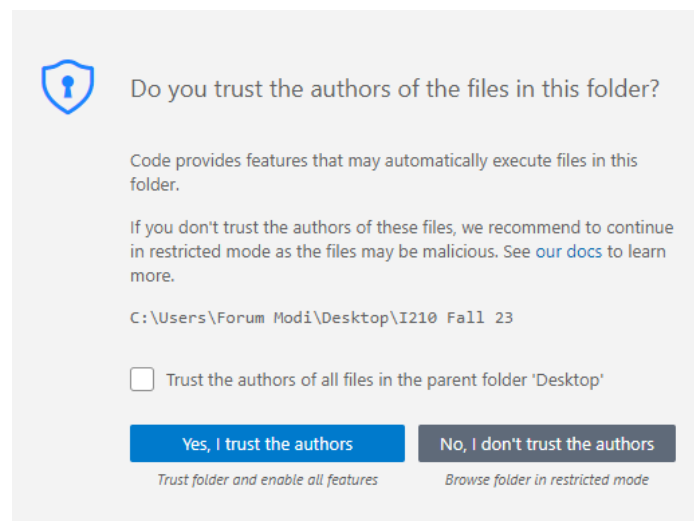
3. Now, you can create new files for I210 within this folder!

    This will make it much easier to run programs when they rely on several files (we will get to this much later in the semester)

Opening Files in Visual Studio Code

Once we have gotten to lesson 18, you will need to be able to access files in your program.

1. *Check Folder with Files*: Make sure that your python file and the file you are opening are in the same folder.

   Use your file explorer (windows) or finder (mac) to find the python file and file to read, make sure you can see them in the same folder

   DO NOT USE YOUR IU ONE DRIVE, this causes errors due to the way the university stores files on one drive.

2. Open Visual Studio using the folder where the python file and the file you are opening are in (recommended to use a specific I210 folder).
   a. **Select File -> Open Folder** and then select the folder

3. *Run Your Python Code*: You can now run your Python code by clicking on the "Run" button in the top right corner of the editor.

   If you still get a file error, try:
   - Double checking you spelled the file name right in your code.
   - Kill the terminal by pressing the trashcan on the right side of the terminal, and try again.
   - Check steps 1 & 2 again, make sure you open the Folder with both files in it for step 2

Getting To Know Visual Studio Code

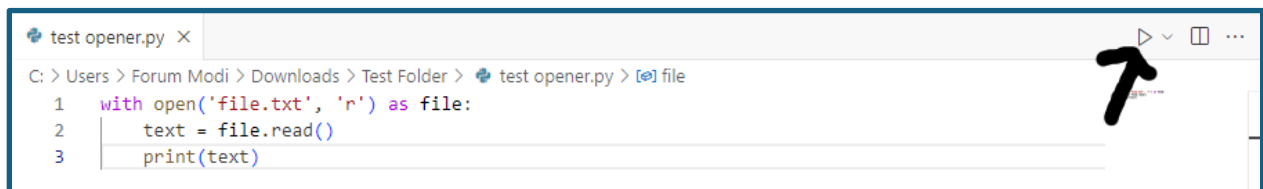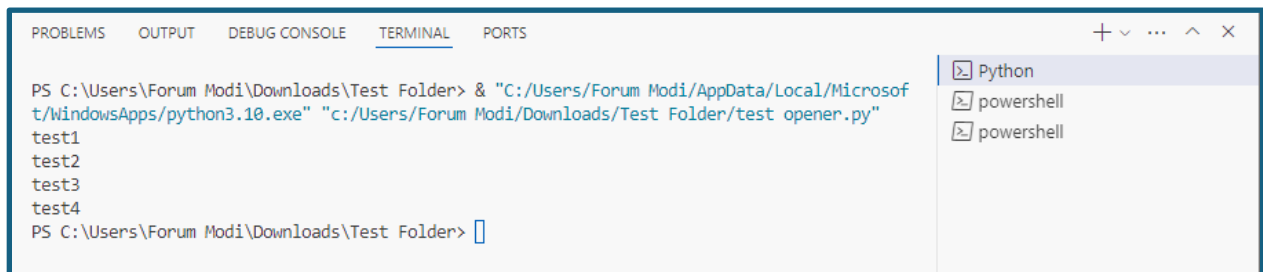**Editor Area**: Where you write your code, the main part of the program


```python
with open('file.txt', 'r') as file:
    text = file.read()
    print(text)
```
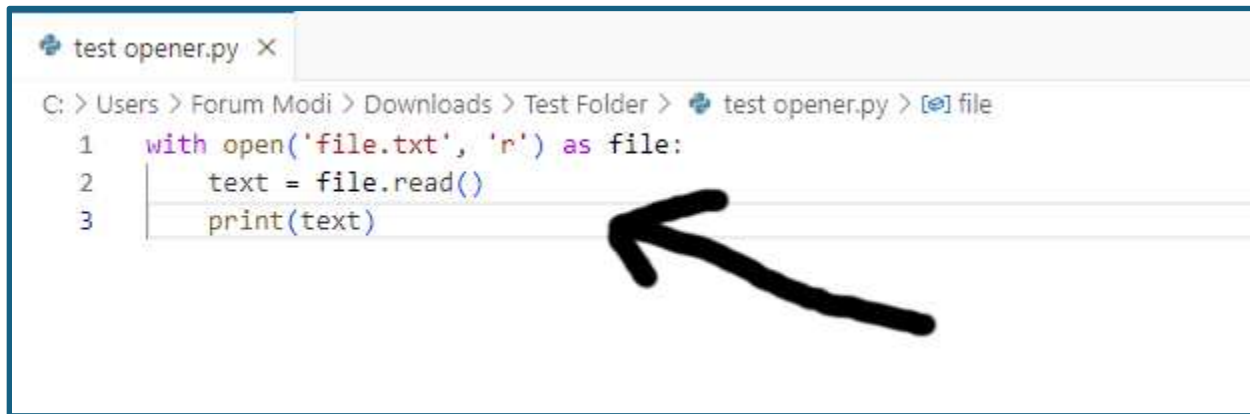
Running Code: You can run code using the triangle shape icon on the right of the file name.


```python
with open('file.txt', 'r') as file:
    text = file.read()
    print(text)
```

Terminal: Bottom on VS code where the output of code you run will be shown. You can also type in terminal commands here. If you do not see it, run code and it will appear.


```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS C:\Users\Forum Modi\Downloads\Test Folder> & "C:/Users/Forum Modi/AppData/Local/Microsof
t/WindowsApps/python3.10.exe" "c:/Users/Forum Modi/Downloads/Test Folder/test opener.py"
test1
test2
test3
test4
PS C:\Users\Forum Modi\Downloads\Test Folder>
```

Search Bar: This at the top of the VS code screen, you can use this to search for files to open

Side Bar: Located on the left side, it provides quick access to different views like Explorer, Search, Source Control, and Extensions.

Helpful VS Code Settings

Turn Autosave On
Select File -> Click Auto Save.
Now when you select File, you should see a small checkmark next to Auto Save

Turn Format on Save on
Select File->Preferences->Settings, then search for "format on save".
Tick the box that says "Editor:Format on Save"
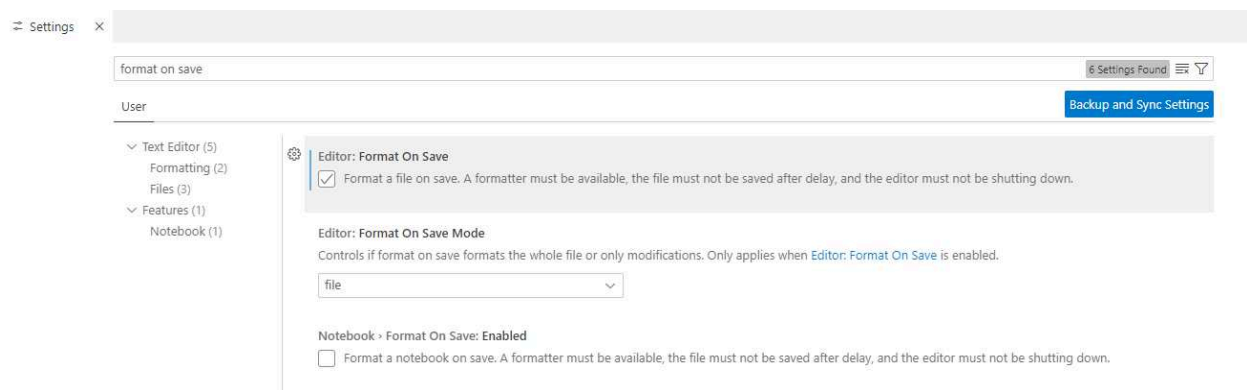
VS Code Shortcuts

Here are some shortcuts for VS Code that will be helpful!

Mac Users: *Cntrl can be replaced by the Command key*

Non-VS Code Specific
- *Copy*: Ctrl + C
- *Paste*: Ctrl + V
- *Cut*: Ctrl + X
- *Find:* Ctrl + F
- *Select all files in a directory:* Ctrl + A

VS Code Specific
- *Go from terminal to code editor*: Ctrl + ` (backtick, left of 1 on keyboard)
- *Comment/Uncomment out highlighted code*: Cntrl + /
- *Dedent a highlighted lines of code*: Ctrl + [

- *Indent a highlighted lines of code*: Ctrl + [
- *Delete Line*: Ctrl + Shift + K

A more comprehensive list can be found at the end of this document

Visual Studio Code

Keyboard shortcuts for Windows

General

Ctrl+Shift+P, F1	Show Command Palette
Ctrl+P	Quick Open, Go to File...
Ctrl+Shift+N	New window/instance
Ctrl+Shift+W	Close window/instance
Ctrl+,	User Settings
Ctrl+K Ctrl+S	Keyboard Shortcuts

Basic editing

Ctrl+X	Cut line (empty selection)
Ctrl+C	Copy line (empty selection)
Alt+ ↑ / ↓	Move line up/down
Shift+Alt + ↓ / ↑	Copy line up/down
Ctrl+Shift+K	Delete line
Ctrl+Enter	Insert line below
Ctrl+Shift+Enter	Insert line above
Ctrl+Shift+\	Jump to matching bracket
Ctrl+] / [	Indent/outdent line
Home / End	Go to beginning/end of line
Ctrl+Home	Go to beginning of file
Ctrl+End	Go to end of file
Ctrl+↑ / ↓	Scroll line up/down
Alt+PgUp / PgDn	Scroll page up/down
Ctrl+Shift+[	Fold (collapse) region
Ctrl+Shift+]	Unfold (uncollapse) region
Ctrl+K Ctrl+[	Fold (collapse) all subregions
Ctrl+K Ctrl+]	Unfold (uncollapse) all subregions
Ctrl+K Ctrl+0	Fold (collapse) all regions
Ctrl+K Ctrl+J	Unfold (uncollapse) all regions
Ctrl+K Ctrl+C	Add line comment
Ctrl+K Ctrl+U	Remove line comment
Ctrl+/	Toggle line comment
Shift+Alt+A	Toggle block comment
Alt+Z	Toggle word wrap

Navigation

Ctrl+T	Show all Symbols
Ctrl+G	Go to Line...
Ctrl+P	Go to File...
Ctrl+Shift+O	Go to Symbol...
Ctrl+Shift+M	Show Problems panel
F8	Go to next error or warning
Shift+F8	Go to previous error or warning
Ctrl+Shift+Tab	Navigate editor group history
Alt+ ← / →	Go back / forward

Ctrl+M	Toggle Tab moves focus

Search and replace

Ctrl+F	Find
Ctrl+H	Replace
F3 / Shift+F3	Find next/previous
Alt+Enter	Select all occurences of Find match
Ctrl+D	Add selection to next Find match
Ctrl+K Ctrl+D	Move last selection to next Find match
Alt+C / R / W	Toggle case-sensitive / regex / whole word

Multi-cursor and selection

Alt+Click	Insert cursor
Ctrl+Alt+ ↑ / ↓	Insert cursor above / below
Ctrl+U	Undo last cursor operation
Shift+Alt+I	Insert cursor at end of each line selected
Ctrl+L	Select current line
Ctrl+Shift+L	Select all occurrences of current selection
Ctrl+F2	Select all occurrences of current word
Shift+Alt+→	Expand selection
Shift+Alt+←	Shrink selection
Shift+Alt + (drag mouse)	Column (box) selection
Ctrl+Shift+Alt + (arrow key)	Column (box) selection
Ctrl+Shift+Alt +PgUp/PgDn	Column (box) selection page up/down

Rich languages editing

Ctrl+Space, Ctrl+I	Trigger suggestion
Ctrl+Shift+Space	Trigger parameter hints
Shift+Alt+F	Format document
Ctrl+K Ctrl+F	Format selection
F12	Go to Definition
Alt+F12	Peek Definition
Ctrl+K F12	Open Definition to the side
Ctrl+.	Quick Fix
Shift+F12	Show References
F2	Rename Symbol
Ctrl+K Ctrl+X	Trim trailing whitespace
Ctrl+K M	Change file language

Editor management

Ctrl+F4, Ctrl+W	Close editor
Ctrl+K F	Close folder
Ctrl+\	Split editor
Ctrl+ 1 / 2 / 3	Focus into 1st, 2nd or 3rd editor group
Ctrl+K Ctrl+ ←/→	Focus into previous/next editor group
Ctrl+Shift+PgUp / PgDn	Move editor left/right
Ctrl+K ← / →	Move active editor group

File management

Ctrl+N	New File
Ctrl+O	Open File...
Ctrl+S	Save
Ctrl+Shift+S	Save As...
Ctrl+K S	Save All
Ctrl+F4	Close
Ctrl+K Ctrl+W	Close All
Ctrl+Shift+T	Reopen closed editor
Ctrl+K Enter	Keep preview mode editor open
Ctrl+Tab	Open next
Ctrl+Shift+Tab	Open previous
Ctrl+K P	Copy path of active file
Ctrl+K R	Reveal active file in Explorer
Ctrl+K O	Show active file in new window/instance

Display

F11	Toggle full screen
Shift+Alt+0	Toggle editor layout (horizontal/vertical)
Ctrl+ = / -	Zoom in/out
Ctrl+B	Toggle Sidebar visibility
Ctrl+Shift+E	Show Explorer / Toggle focus
Ctrl+Shift+F	Show Search
Ctrl+Shift+G	Show Source Control
Ctrl+Shift+D	Show Debug
Ctrl+Shift+X	Show Extensions
Ctrl+Shift+H	Replace in files
Ctrl+Shift+J	Toggle Search details
Ctrl+Shift+U	Show Output panel
Ctrl+Shift+V	Open Markdown preview
Ctrl+K V	Open Markdown preview to the side
Ctrl+K Z	Zen Mode (Esc Esc to exit)

Debug

F9	Toggle breakpoint
F5	Start/Continue
Shift+F5	Stop
F11 / Shift+F11	Step into/out
F10	Step over
Ctrl+K Ctrl+I	Show hover

Integrated terminal

Ctrl+`	Show integrated terminal
Ctrl+Shift+`	Create new terminal
Ctrl+C	Copy selection
Ctrl+V	Paste into active terminal
Ctrl+↑ / ↓	Scroll up/down
Shift+PgUp / PgDn	Scroll page up/down
Ctrl+Home / End	Scroll to top/bottom

Other operating systems' keyboard shortcuts and additional unassigned shortcuts available at aka.ms/vscodekeybindings

Visual Studio Code
Keyboard shortcuts for macOS

General

⇧⌘P, F1	Show Command Palette
⌘P	Quick Open, Go to File…
⇧⌘N	New window/instance
⌘W	Close window/instance
⌘,	User Settings
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Basic editing

⌘X	Cut line (empty selection)
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⇧⌥↓ / ⇧⌥↑	Copy line down/up
⇧⌘K	Delete line
⌘Enter / ⇧⌘Enter	Insert line below/above
⇧⌘\	Jump to matching bracket
⌘] / ⌘[	Indent/outdent line
Home / End	Go to beginning/end of line
⌘↑ / ⌘↓	Go to beginning/end of file
^PgUp / ^PgDn	Scroll line up/down
⌘PgUp /⌘PgDn	Scroll page up/down
⌥⌘[/ ⌥⌘]	Fold/unfold region
⌘K ⌘[/ ⌘K ⌘]	Fold/unfold all subregions
⌘K ⌘0 / ⌘K ⌘J	Fold/unfold all regions
⌘K ⌘C	Add line comment
⌘K ⌘U	Remove line comment
⌘/	Toggle line comment
⇧⌥A	Toggle block comment
⌥Z	Toggle word wrap

Multi-cursor and selection

⌥ + click	Insert cursor
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⇧⌘L	Select all occurrences of current selection
⌘F2	Select all occurrences of current word
^⇧⌘→ / ←	Expand / shrink selection
⇧⌥ + drag mouse	Column (box) selection
⇧⌥⌘↑ / ↓	Column (box) selection up/down
⇧⌥⌘← / →	Column (box) selection left/right
⇧⌥⌘PgUp	Column (box) selection page up
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⌥⌘F	Replace
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^G	Go to Line…
⌘P	Go to File…
⇧⌘O	Go to Symbol…
⇧⌘M	Show Problems panel
F8 / ⇧F8	Go to next/previous error or warning
^⇧Tab	Navigate editor group history
^- / ^⇧-	Go back/forward
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Editor management

⌘W	Close editor
⌘K F	Close folder
⌘\	Split editor
⌘1 / ⌘2 / ⌘3	Focus into 1st, 2nd, 3rd editor group
⌘K ⌘← / ⌘K ⌘→	Focus into previous/next editor group
⌘K ⇧⌘← / ⌘K ⇧⌘→	Move editor left/right
⌘K ← / ⌘K →	Move active editor group

File management

⌘N	New File
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⌘S	Save
⇧⌘S	Save As…
⌥⌘S	Save All
⌘W	Close
⌘K ⌘W	Close All

⇧⌘T	Reopen closed editor
⌘K Enter	Keep preview mode editor open
^Tab / ^⇧Tab	Open next / previous
⌘K P	Copy path of active file
⌘K R	Reveal active file in Finder
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F9	Toggle breakpoint
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F10	Step over
⇧F5	Stop
⌘K ⌘I	Show hover

Integrated terminal

^`	Show integrated terminal
^⇧`	Create new terminal
⌘C	Copy selection
⌘↑ / ↓	Scroll up/down
PgUp / PgDn	Scroll page up/down
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