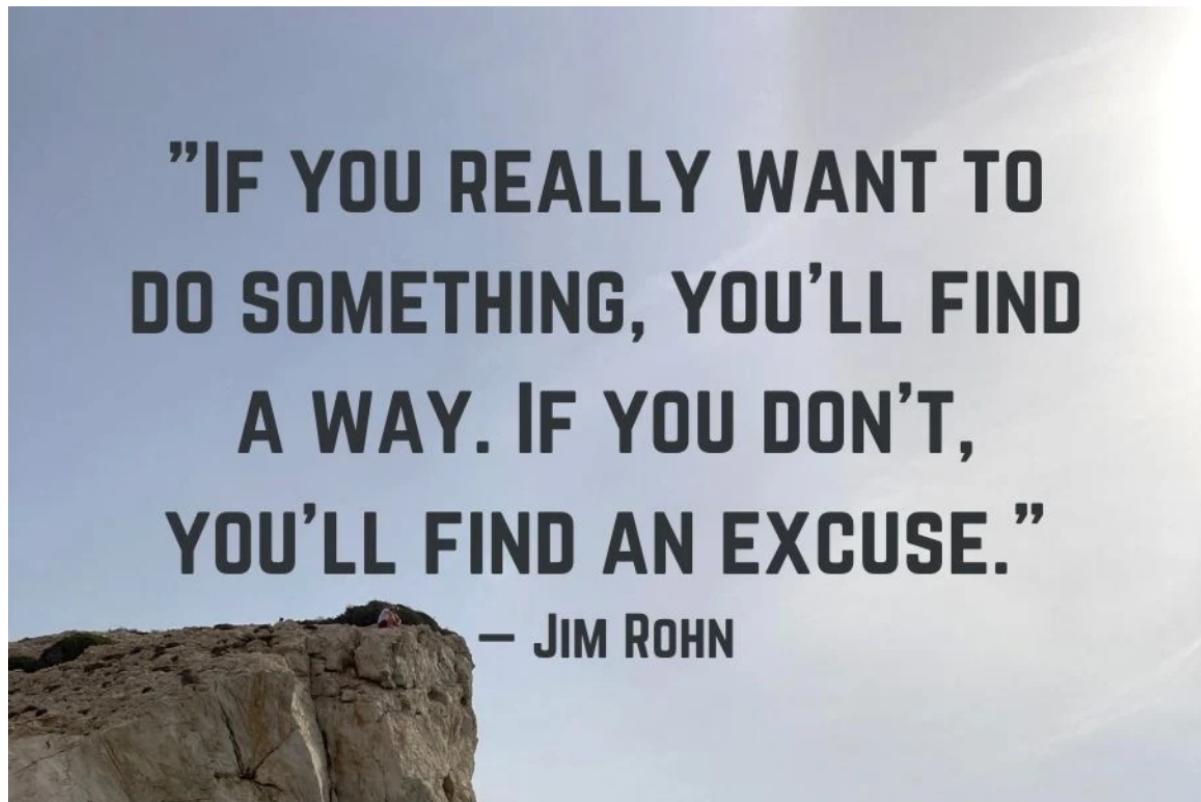


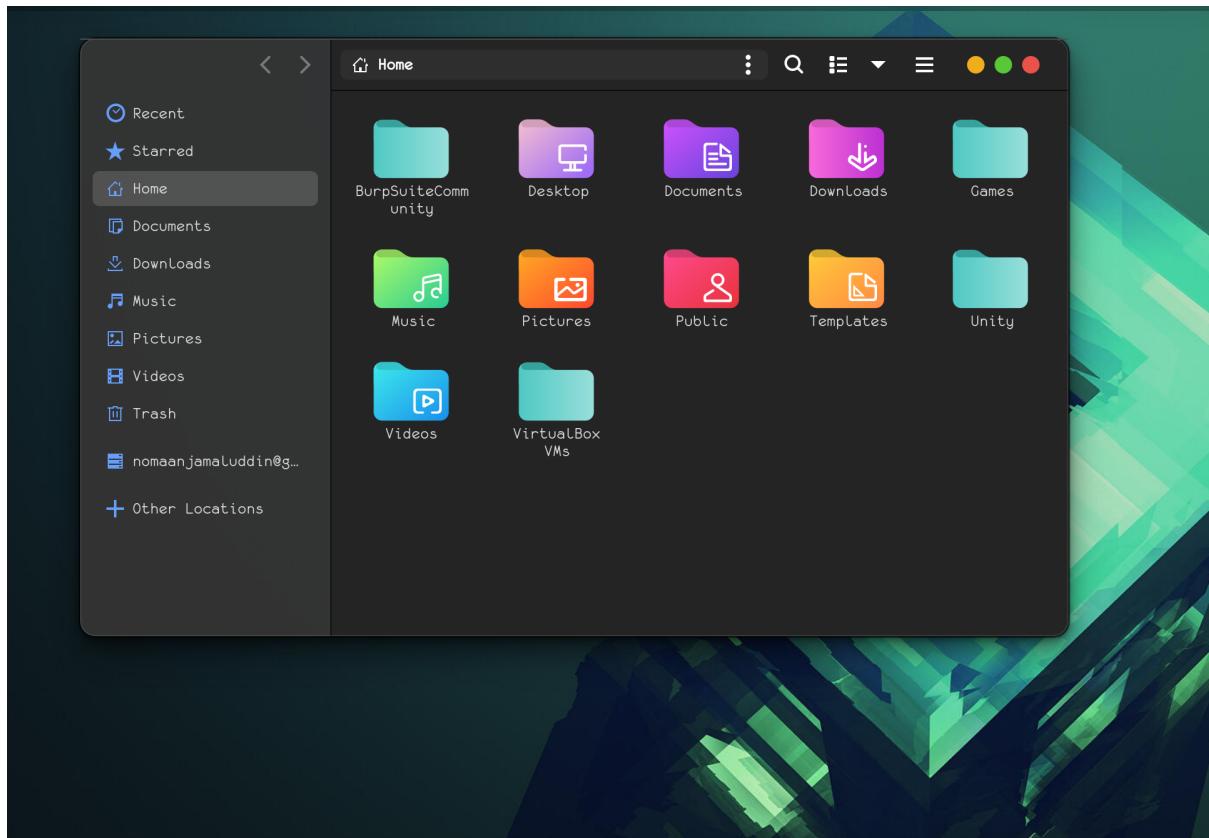
Essentials_0x02



There goes it, the quote of the day. If you really are invested in something you love, no amount of obstacles can possibly render you adrift. Enough said it's time to look at some Python and C code execution

Organizing files

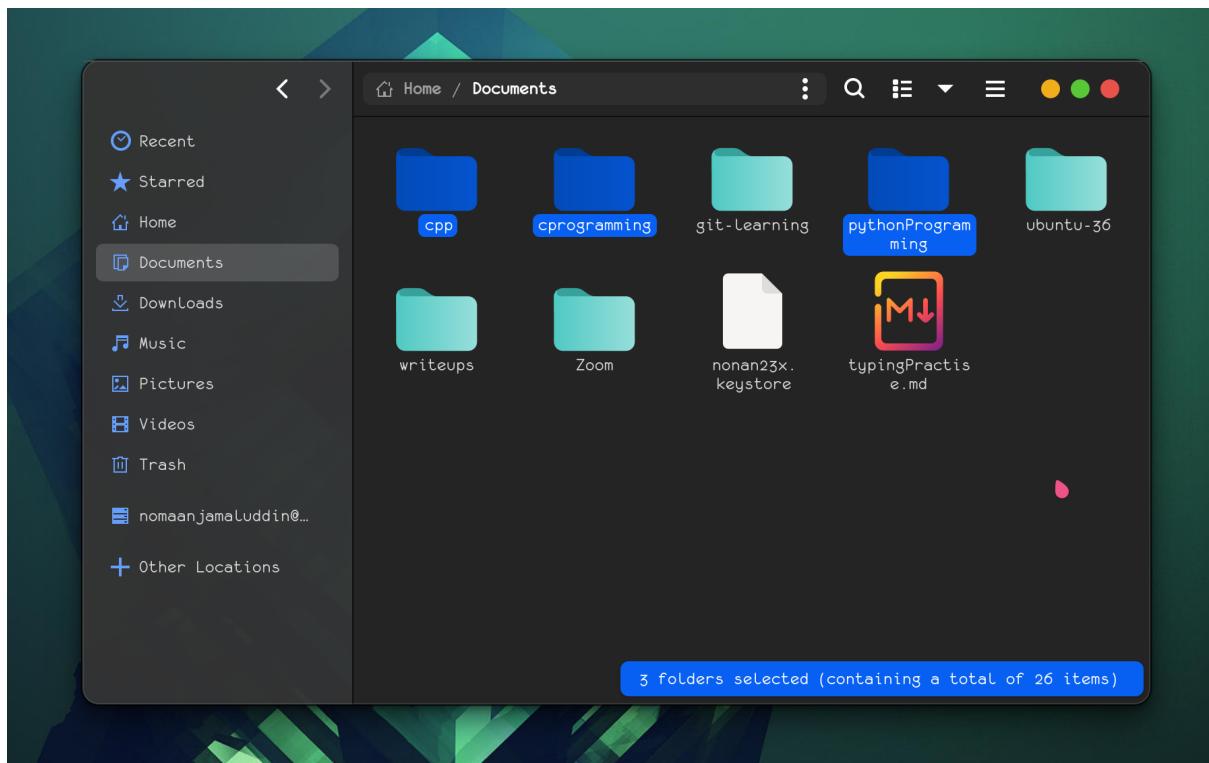
Before doing anything, I want you to contemplate the file system hierarchy on your operating system, open your file explorer and have a look at the files and directories it has



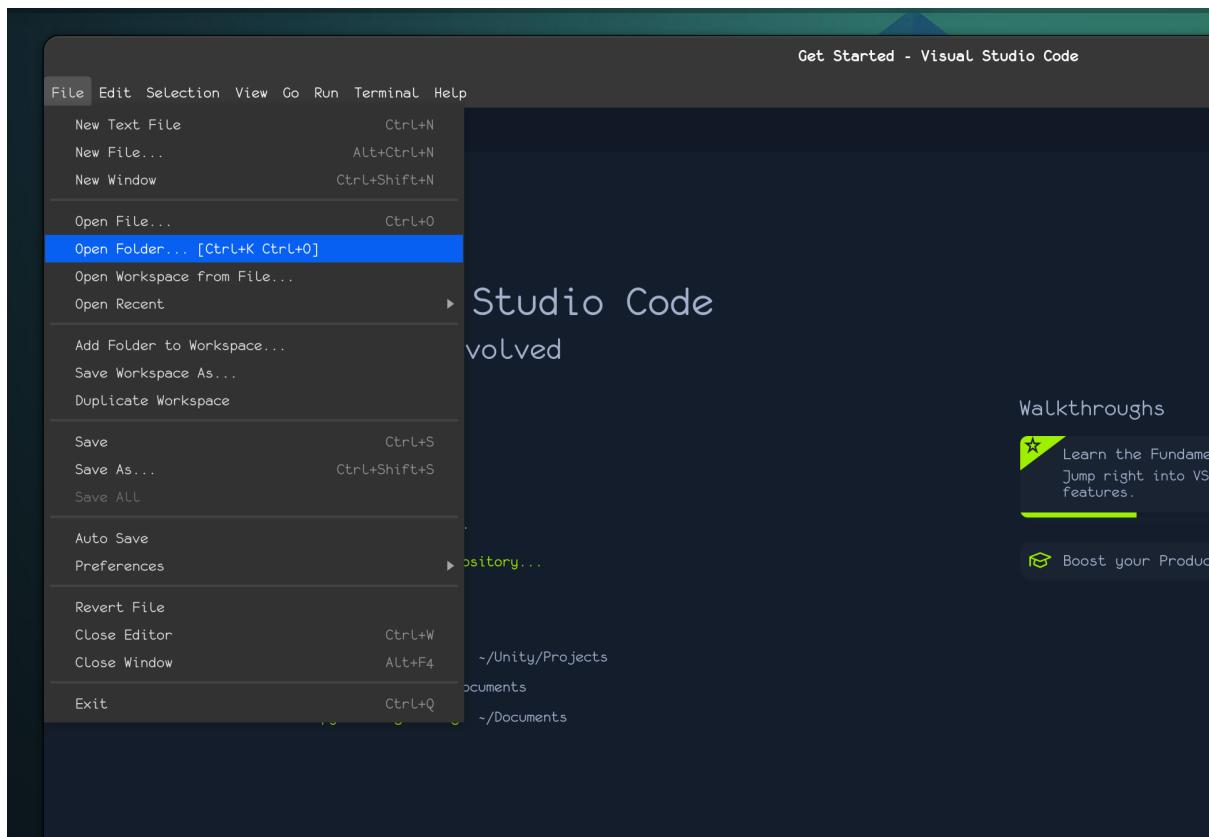
(Although this is my file explorer and yours would be boring anyway, I meant to showcase the folders and not the beautifully organized folders)

Technically, our operating system provided us with **organised** folders for each purpose, so we should utilize it in that way only, keep your downloads on the downloads directory, move pictures to the pictures directory, and important documents on the documents directory

Create a folder for Python, C and C++ inside your Documents folder



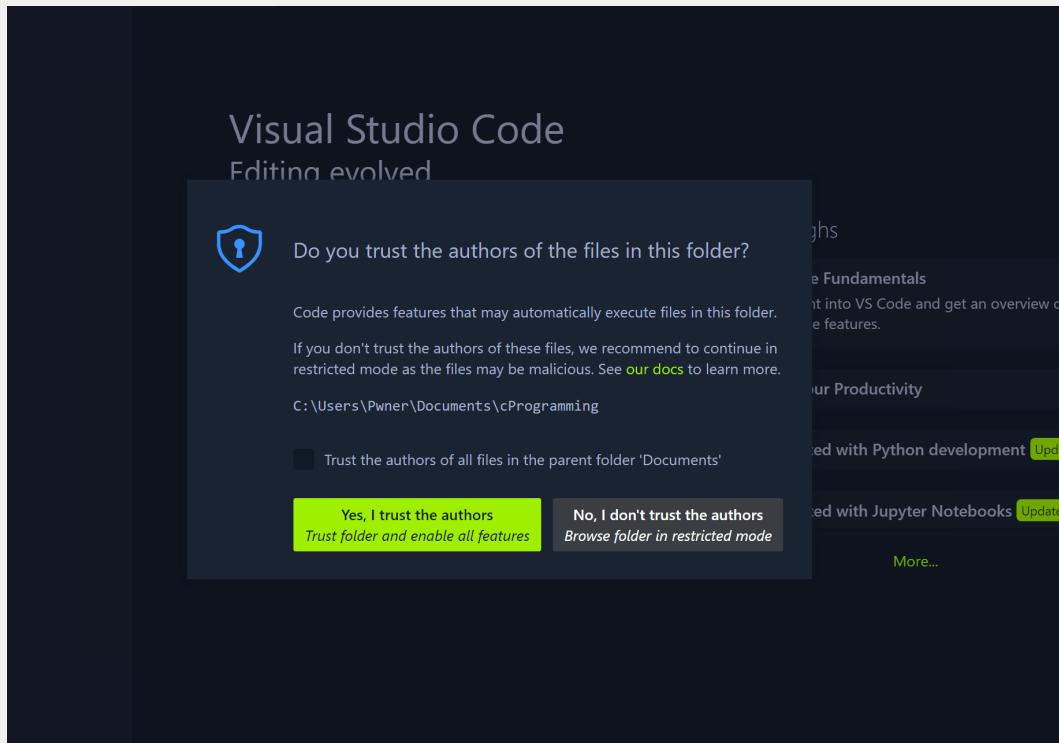
Now open VS Code, click on the file, and select an open folder, here you should be able to navigate to the respective language folders you previously created





Whenever you try to open a new folder in VS Code, it'll ask you whether you want to trust the author of this folder or not, and yes, you want to select that.

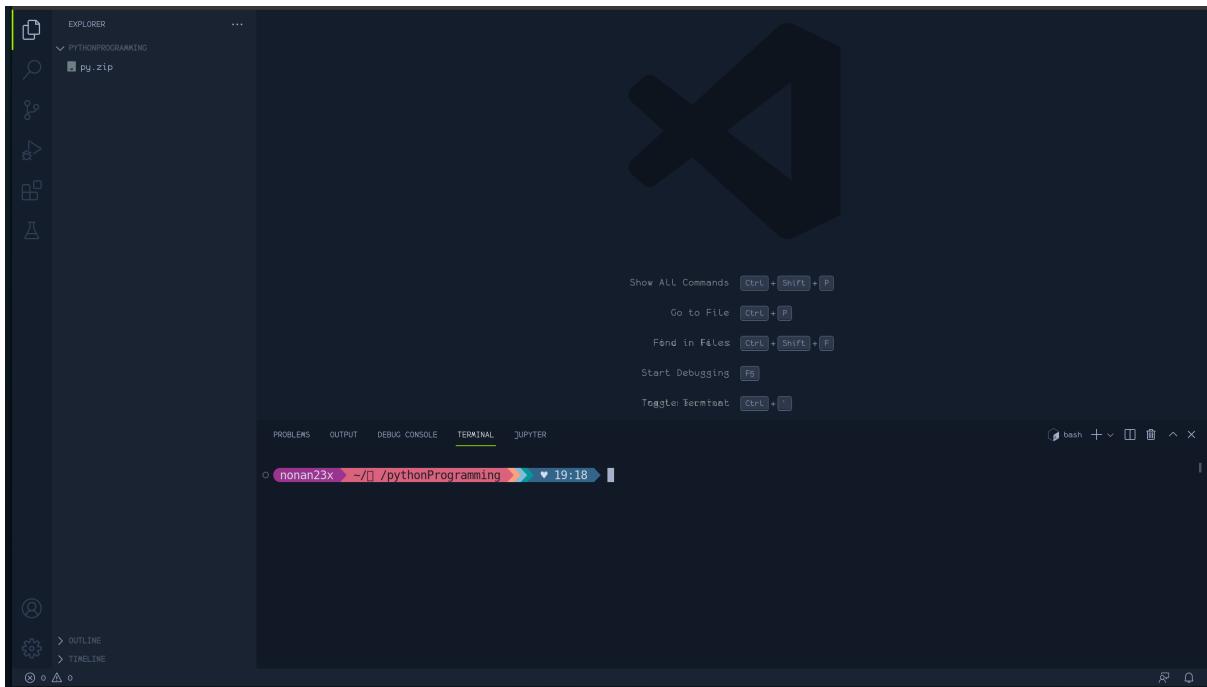
Select “Yes, I trust the Authors” and you're ready to program



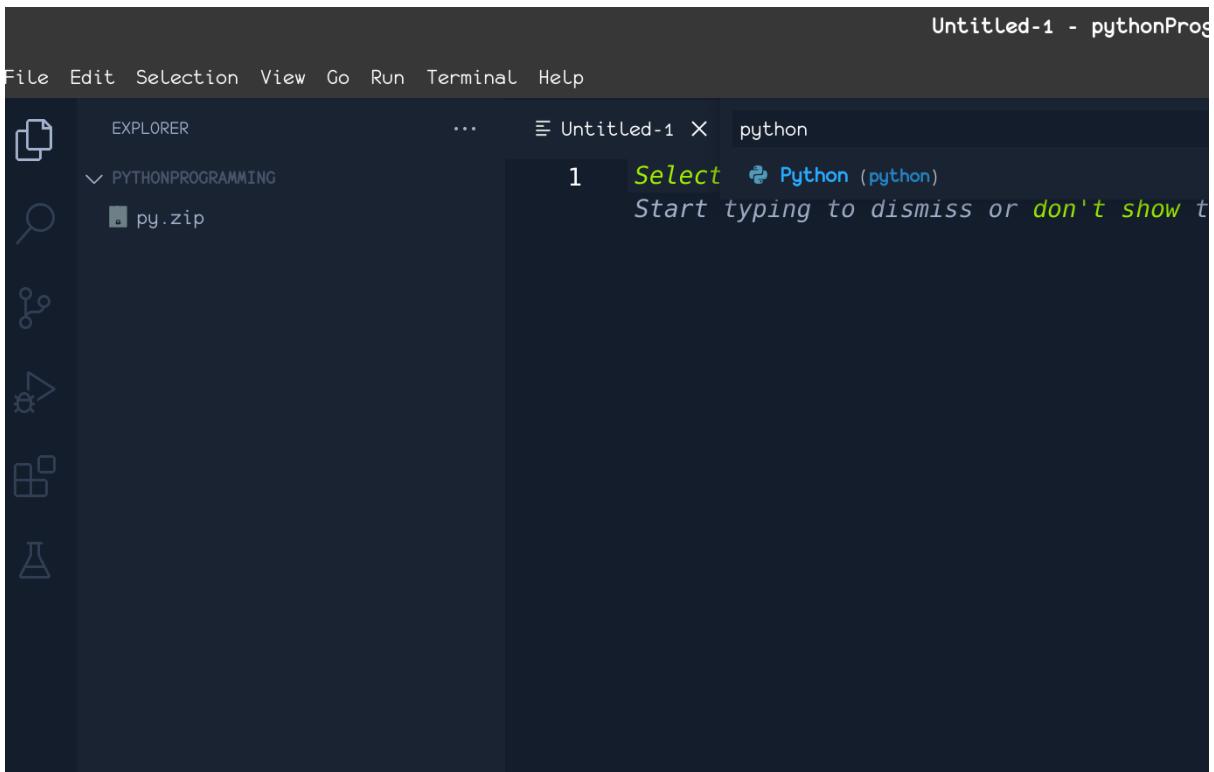
A little bit of Python

After opening your **Python** Directory inside VS code, this is what you'd see (ignore the py.zip in my screenshot)

The left section is where it shows your current folder's contents, and what files and sub-directories it contains, the right and big part of the screen is where you'd write the code, but since its the first time opening VS Code, there are no files in this directory, just create a new file

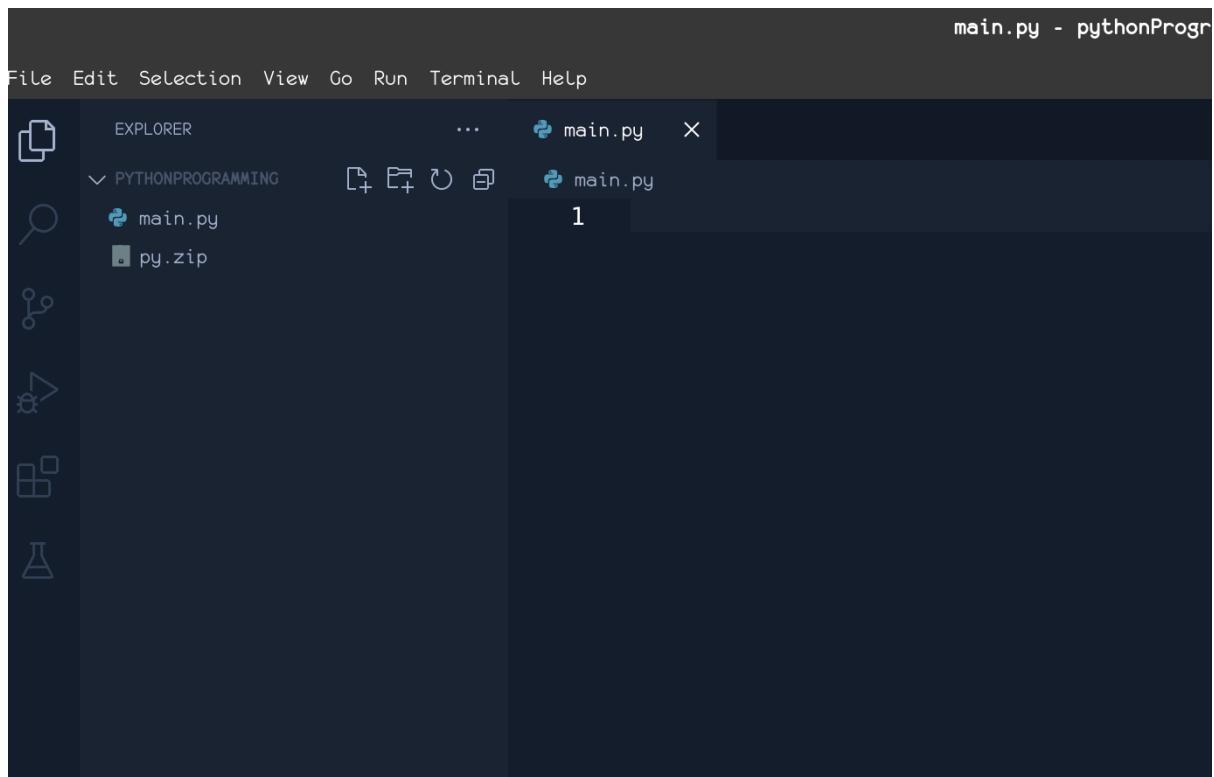


Now, just the same way you opened this folder, use the `file` section to create a new text file, when you click on it, it'll prompt you to select a language, click on it, and it will show a search bar for languages, search for `Python` and select it



By default, it will initialize the name as `Untitled-1.py`, before writing anything save the file with an appropriate name hit (`Ctrl + S`) to save, and pick a new name for it,

I'll use [main.py](#).



Now you are ready to write some Python code

```
print("Hello, World!")
```

Hit the play button on the top right corner, your output will be visible on the terminal down below

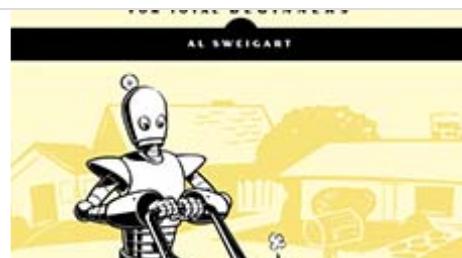
```
main.py  X
main.py
1  print("Hello, World!")

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER  +  ^  X
● nonan23x ~/pythonProgramming 19:28 /bin/python3 /home/nonan23x/Documents/pythonProgramming/main.py
Hello, World!
○ nonan23x ~/pythonProgramming 19:29
```

Python is widely considered among the easiest programming languages for beginners to learn. If you're interested in learning a new programming language, Python is a good place to start. It's also one of the most widely used with a lot of resources at hand. A few resources which I would recommend are:

Automate the Boring Stuff with Python

By Al Sweigart. Over 500,000 copies sold. Free to read under a CC license. "The best part of programming is the triumph of seeing the machine do something useful. Automate the Boring".
<https://automatetheboringstuff.com/>



Python Programming Tutorials

This is my python programming tutorial for complete beginners. In this series I will be covering all aspects of basic python programming. I will be posting a...

▶ <https://youtube.com/playlist?list=PLzMcBGfZo4-mFu00qxI0a67RhjjZj3jXm>



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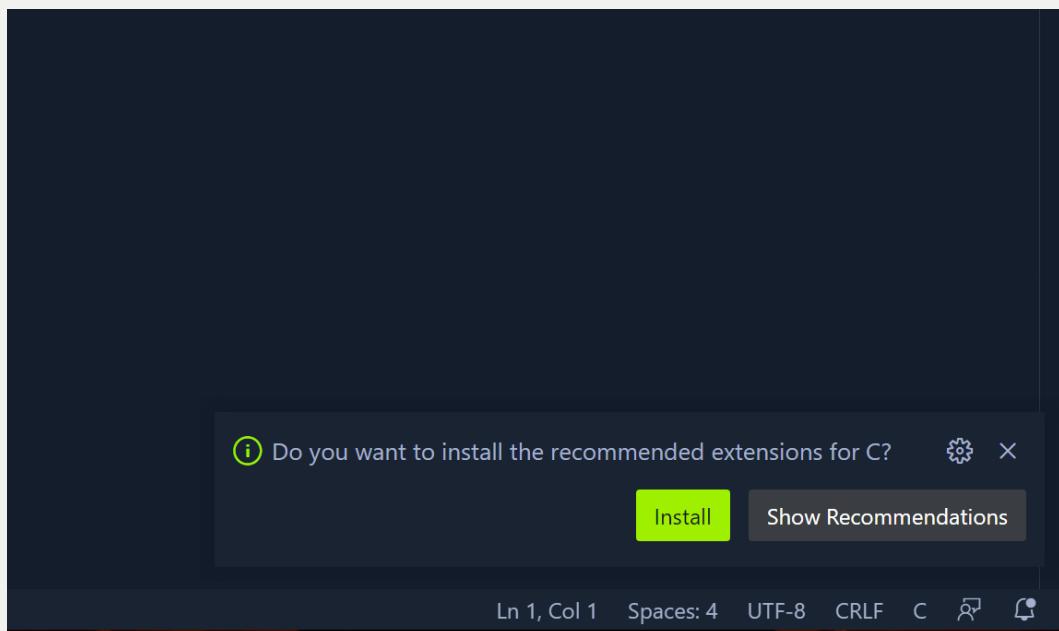


A Little Bit of C

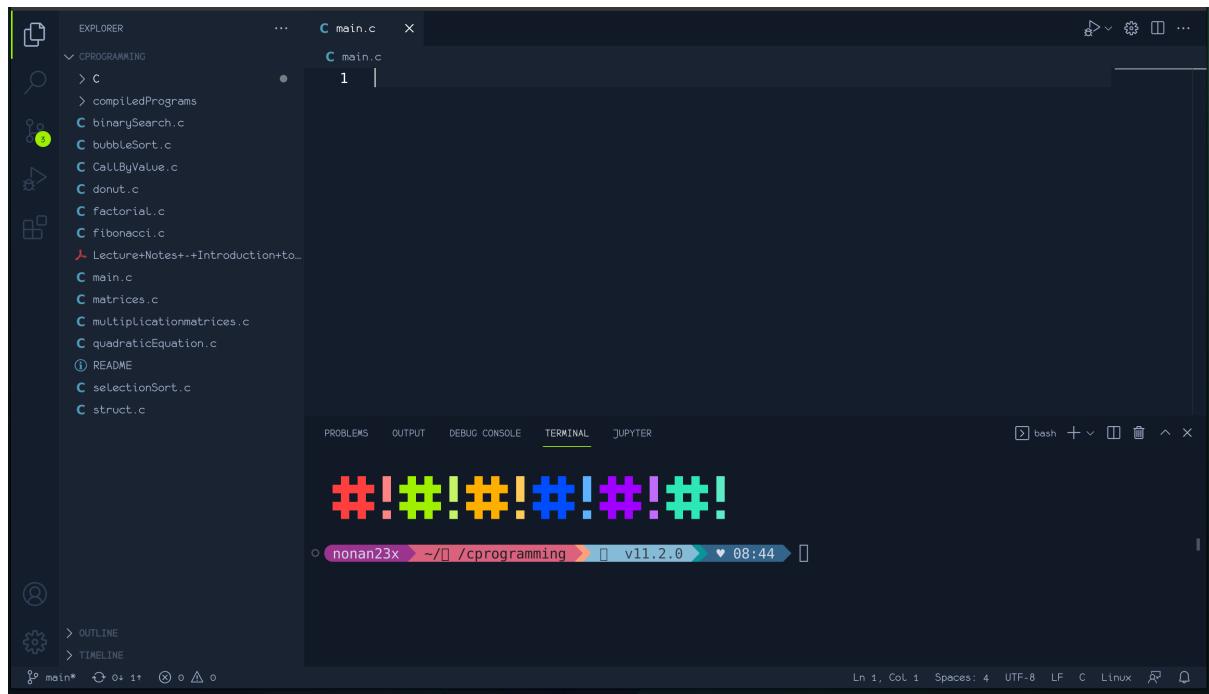
I assume you've created a dedicated folder for C language under the documents folder, just like the case with [Python](#), go to [File](#) > [Open Folder](#) and navigate to [Documents](#) and the C folder you created, then create a new text file and change the language to C, and then save it under an appropriate name, I'll be using main.c



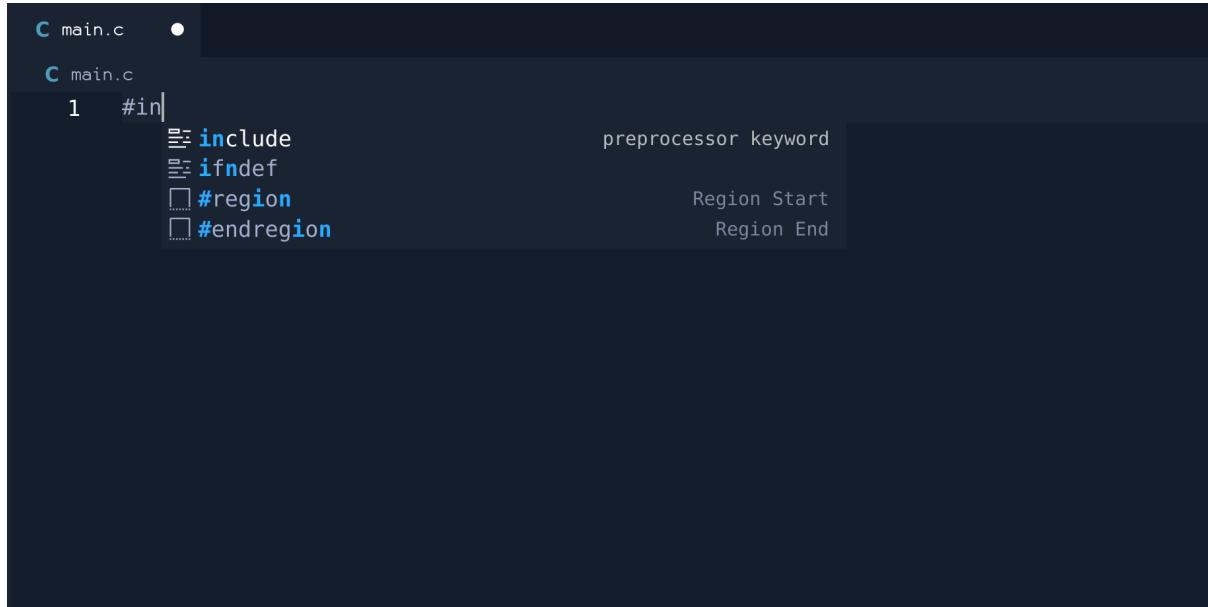
When you start to write some C code, you will see a pop-up window asking you to install it, which, you should do



After installing it, you can just close the extensions tab and continue writing code



Let us write a simple hello world program and try to run it, one thing you'll notice is, that VS Code gives you autocomplete feature, when you start typing `#inc`, vs code will let you know what you are looking for, at this screen, just hit `Enter`



A screenshot of the VS Code interface. The left sidebar shows two files: 'main.c' and 'main.c'. The main editor area has the following code:

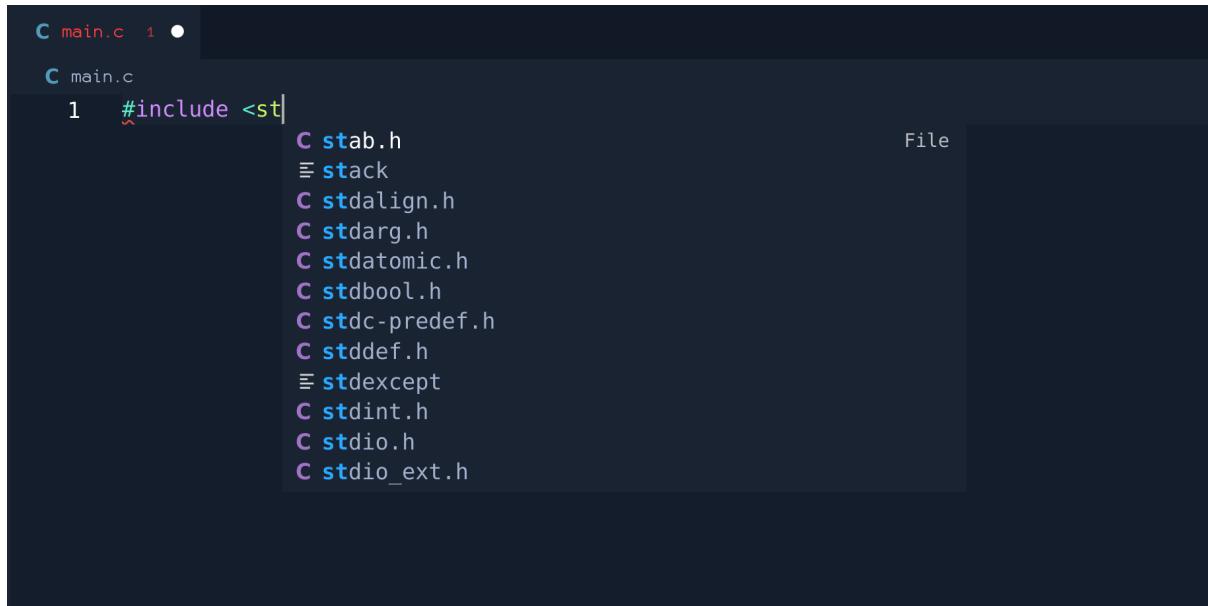
```
1 #in|
```

A code completion dropdown is open over the cursor, showing suggestions:

- include (highlighted)
- ifndef
- #region
- #endregion

The 'include' suggestion is highlighted. To the right of the suggestions, there are three labels: 'preprocessor keyword', 'Region Start', and 'Region End'.

This code completion works everywhere, that's the power of modern computing environment, here we cannot hit enter because there are tons of header files, so we would type this one out



A screenshot of the VS Code interface. The left sidebar shows two files: 'main.c' and 'main.c'. The main editor area has the following code:

```
1 #include <st|
```

A code completion dropdown is open over the cursor, showing suggestions:

- stab.h
- stack
- stdalign.h
- stdarg.h
- stdatomic.h
- stdbool.h
- stdc-predef.h
- stddef.h
- stdexcept
- stdint.h
- stdio.h
- stdio_ext.h

The 'stdio.h' suggestion is highlighted. To the right of the suggestions, there is a 'File' label.

Now I assume you can play around with code completions and get a grasp of what VS Code can do, for now, write the program below

```
#include <stdio.h>

int main()
{
    printf("Hello World\n");
    return 0;
}
```



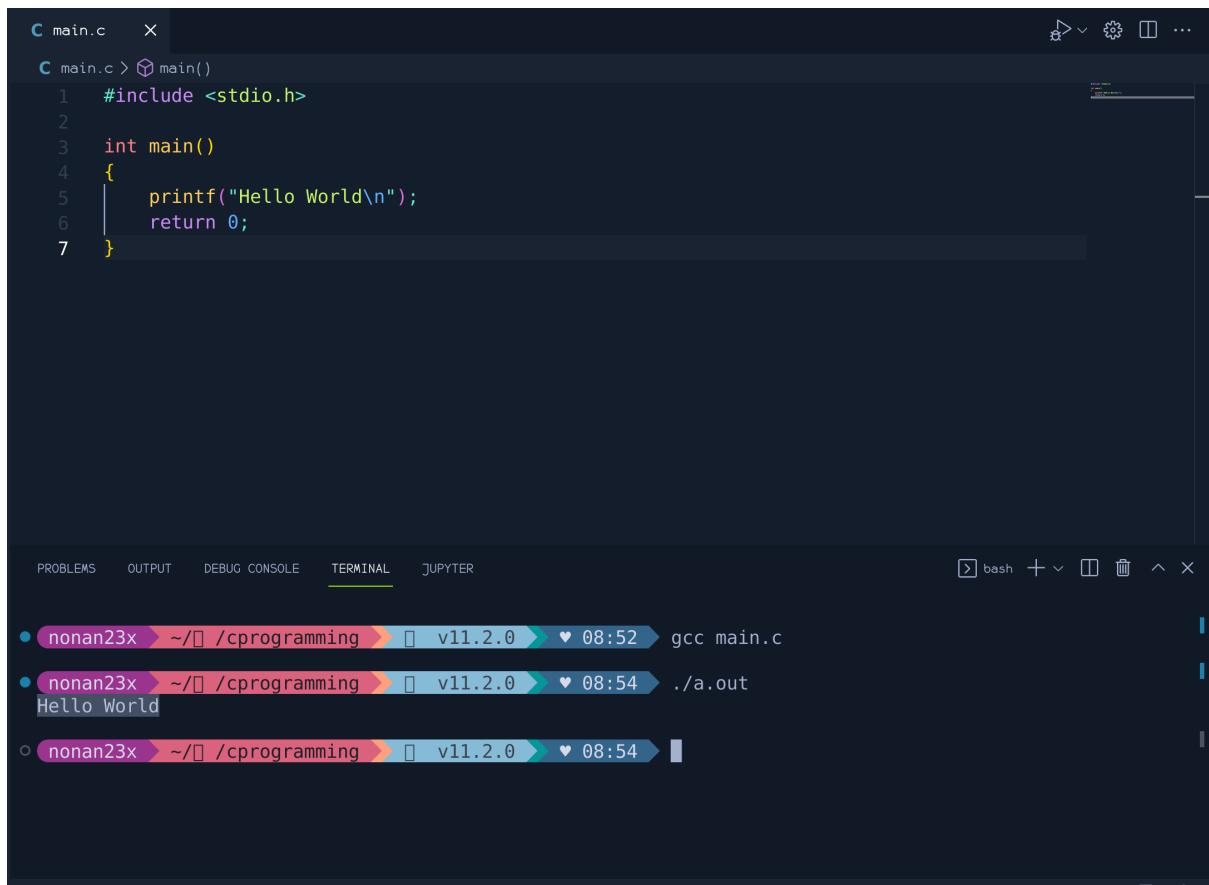
C does not have a dedicated Play button to run the code like in python, although it's definitely possible to set up one like that, that's lazy and not aesthetic, so I'll not be covering that here, we will compile our programs manually

now, all you need to do is save this, and use GCC to compile it, the format is pretty simple, to compile the c source code, you only have to invoke the GCC command along with the name of the file, that's it! (the file name should be accurate)

Open the terminal using this keybind: `Ctrl + ~`

```
gcc main.c
```

After you run the above command in the terminal, if your code was correct, GCC will compile your code and name the executable as `a.exe` (`a.out` in Linux machines) to run this program, all we have to do is invoke `a.out` with a `./`



```
C main.c  ✘
C main.c > ⚡ main()
1  #include <stdio.h>
2
3  int main()
4  {
5      printf("Hello World\n");
6      return 0;
7 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

bash + × □ ^ ×

- nonan23x ~ /cprogramming v11.2.0 08:52 gcc main.c
- nonan23x ~ /cprogramming v11.2.0 08:54 ./a.out
Hello World
- nonan23x ~ /cprogramming v11.2.0 08:54

Have a look at the terminal below, all I did was invoke GCC with the c file name I wrote the code in,

then as I know in Linux the program is created in the name `a.out` all I had to do was issue to command `./a.out` although in windows you would have the program called as `a.exe`, you will run the program with the command `.\a.exe` notices the slashes, in linux we use forward slashes and windows we use backward slashes to invoke programs in our current directory, don't worry if you don't understand this step, I'll have a video attached to this document regarding how to compile and run this code in windows environment

You can learn about the C language and its compiler from these resources:

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freeCodeCamp(

<https://www.udemy.com/>

A Little Bit of C++

I assume you can now comfortable creating a C++ folder under the documents folder and navigate to it inside VS Code, Now, follow the same technique to initialize a C++ file

`File` > `New Text File` > `Select a language` > `C++` > save as any file name you desire, but since this is a c++ program, it must end with .cpp extension

For example: `main.cpp`

Now, copy the following code to your file

```
#include <iostream>

using namespace::std;

int main()
{
    cout << "Hello World\n";
    return 0;
}
```



Do not forget to save!

Now, you would compile your cpp code using g++

```
g++ main.cpp
```

The screenshot shows a terminal window with the following content:

```
main.cpp  X
main.cpp > ⚡ main()
1 #include <iostream>
2
3 using namespace::std;
4
5 int main()
6 {
7     cout << "Hello World\n";
8     return 0;
9 }
```

Below the code editor, the terminal tab is selected. The history shows:

- nonan23x ~ /cpp g++ main.cpp
- nonan23x ~ /cpp ./a.out
Hello World
- nonan23x ~ /cpp g++ main.cpp

Here are some of the C++ resources to get you started:

<https://www.udemy.com/>

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There it is, you can now compile and run programs in Python, C and C++ languages

You just have to learn them and experiment with various problems