Appendix A6

Getting Started with Visual Studio Code

A6.1 Overview

Visual Studio (VS) Code is an extensible code editor that lets you enter, run, and debug your programs. Like other Python Integrated Development Environments (IDEs), VS Code lets you enter and run one statement at a time or create a program with multiple statements. In this appendix, we'll cover how to get started with VS Code. In the next sections, we'll cover the three steps needed for setup: installing VS Code, installing Python, and installing the VS Code Python extension.

There are versions of VS Code for Windows, Mac, and Linux. This appendix covers installing and using VS Code with Mac, but the other versions are very similar. This appendix also covers how to run Python files (scripts) as well as run Python interactively.

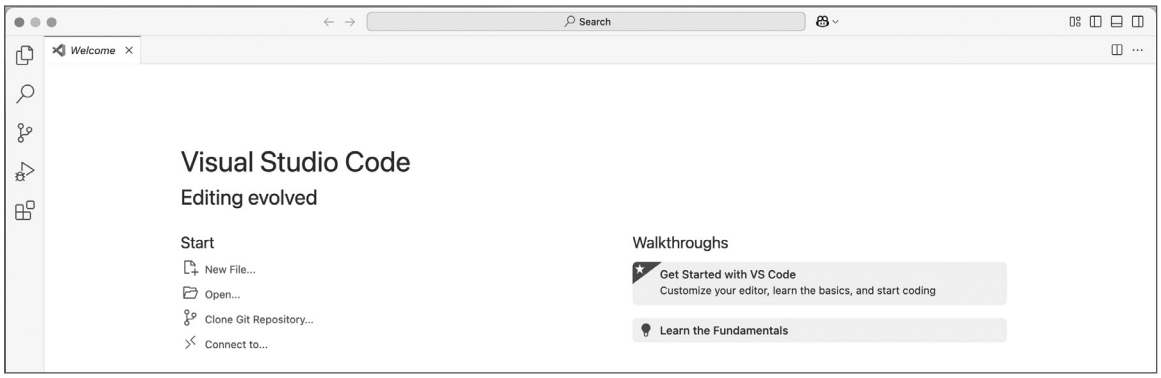
A6.2 Installing VS Code

In order to install VS Code on your computer, visit code.visualstudio.com/download in a browser. On that page are links to download installers for Windows, Mac, and Linux. Click on the link for your computer's operating system.

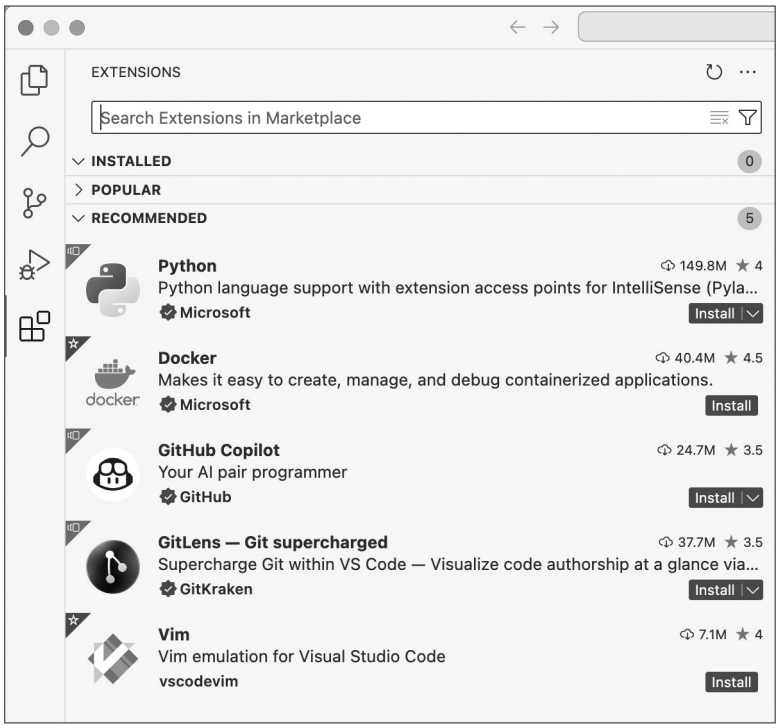
After clicking on one of the download links, your browser should download an installer file. Locate and run this file in order to install VS Code. Once installed, you may want to pin VS Code to your dock or taskbar for easy access.

In addition to the base VS Code application you've installed, you'll need to download the Python runtime software. You can get this from python.org/downloads or from the Anaconda distribution (covered in Appendix A). During the install, if you have the option to add Python to your PATH, you should do this.

Next, start VS Code. The opening screen may look like this (or another welcome screen):



Lastly, you'll need to install a VS Code Python extension. To do this, click on the VS Code Extensions icon at the left middle of VS Code's screen to open the Extensions section:

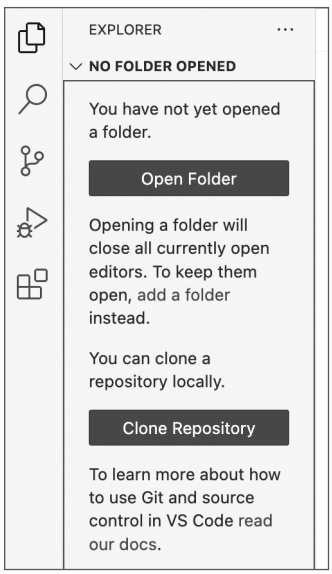


Under Recommended, you may see the Python extension from Microsoft. If not, in the Search Extensions in Marketplace entry field, enter Python to see Python-related extensions. Then for the Python Extension from Microsoft, click on Install.

After following the above steps, you will have Python, VS Code, and the VS Code Python extension installed on your computer.

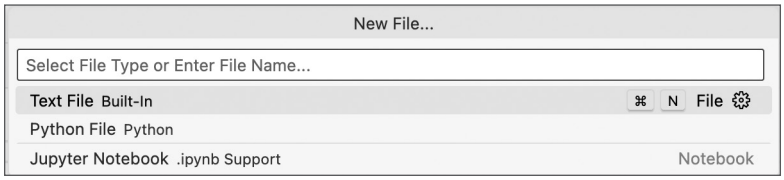
A6.3 Entering and Running a Python Program in VS Code

In this section, we'll create a Python program file and run it. In order to create a Python program file, you should first navigate to a folder where you'll save the file. Click on the Explorer icon (in VS Code at top left).



Next select [Open Folder] and navigate to a directory where you'll keep your Python programs.

Now you can create a Python file. Select File > New File . . . from the main menu to open the New File . . . dialog:



In the entry field, enter "hello.py," and in the next dialog, select [Create File].

You now have a file and corresponding tab called hello.py, and can enter statements for your program in this editing area in VS Code. You can enter this one-line program:

```
print('Hello')
```

Then to run it, click the Run Python File triangle in the top right corner. The output of your program is displayed in the terminal section at bottom.

A6.4 Running Python Programs in VS Code

In the previous section, we reviewed how a program file can be run. We'll next use VS Code to open a terminal and run Python interactively, one statement at a time. To open a terminal, use VS Code's main menu: Terminal > New Terminal.

This opens a terminal section at the bottom of the screen. In the new terminal's prompt, enter: python3 (or py on Windows). This starts the Python shell, where you should see the Python command prompt:

```
>>>
```

The Python shell is where you can enter one statement at a time and immediately see the result. For example, enter the following print statement:

```
>>> print('Hello, Python')
Hello, Python
```

A variable can be set in the interactive shell. For example, below, the variable `sales` is set to 143:

```
>>> sales = 143
```

Unlike the `print()` example above, setting a variable does not result in output being displayed. In a subsequent statement, the variable can be displayed by simply typing the name of the variable at the >>> prompt:

```
>>> sales
143
```

To exit the interactive shell, use:

```
>>> quit()
```

To exit the shell, click on the trash can to the terminal's right.

In order to clear the shell area, right-click (control-click on Mac) in this area, and select Clear from the menu.