

SI 506 Programming I

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macOS: Installing Visual Studio Code

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Overview

[Visual Studio Code](#) (a.k.a VS Code) is a popular source code editor that runs on Windows, Mac, and Linux. It features built-in support for a variety of software languages as well as extensions for languages such as Python.

Follow this guide to acquire, install, and configure VS Code as a Python source code editor. The guide assumes that you have previously [installed](#) Python 3.x.

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1.0 Download and install Visual Studio Code

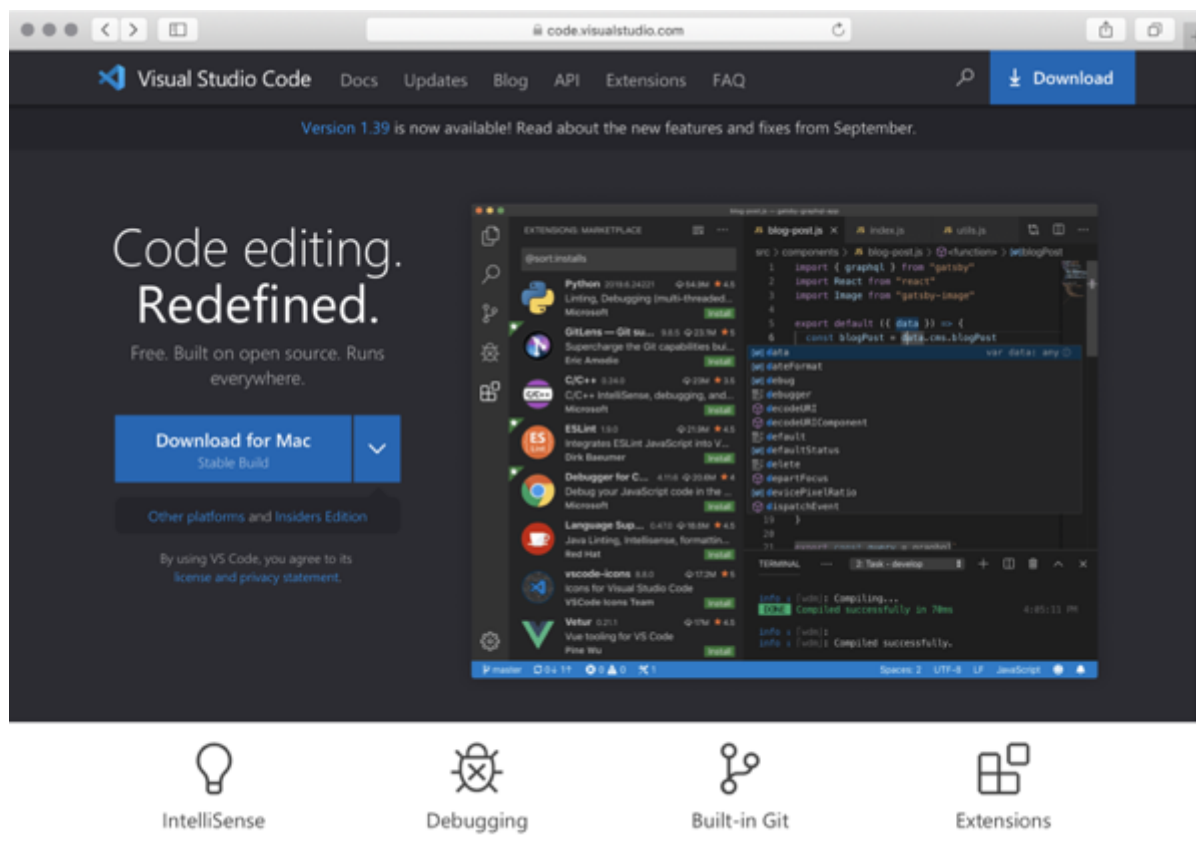
Visual Studio Code serves as the default source code editor for SI 506. The teaching team utilizes VS Code as a teaching tool during lectures, labs, demos, in-class exercises, etc. We recommend highly that you install it in order to synch your local development environment with that of the teaching team.

Note that alternative products exist in the marketplace. Besides Python's own [IDLE](#) app, popular editors and integrated development environments (IDEs) include [PyCharm](#), [Atom](#), [Sublime Text](#), and the Eclipse [Theia](#) cloud (i.e., in-browser) and desktop IDE. Note that to use Jet Brain's [PyCharm](#) you *must* apply for a free [student license](#).

⚠ You may prefer to run a different source code editor than VS Code. You are free to do so. However, the teaching team will assume that you know how to install, configure, and maintain your preferred source code editor or IDE without the need of our assistance. Our focus is VS Code.

1.1 Download Visual Studio Code

Visit the VS Code [website](#). Your operating system version should have been detected on the page load and the link to the VS Code stable build displayed as a blue button. Click the button to download the install package.

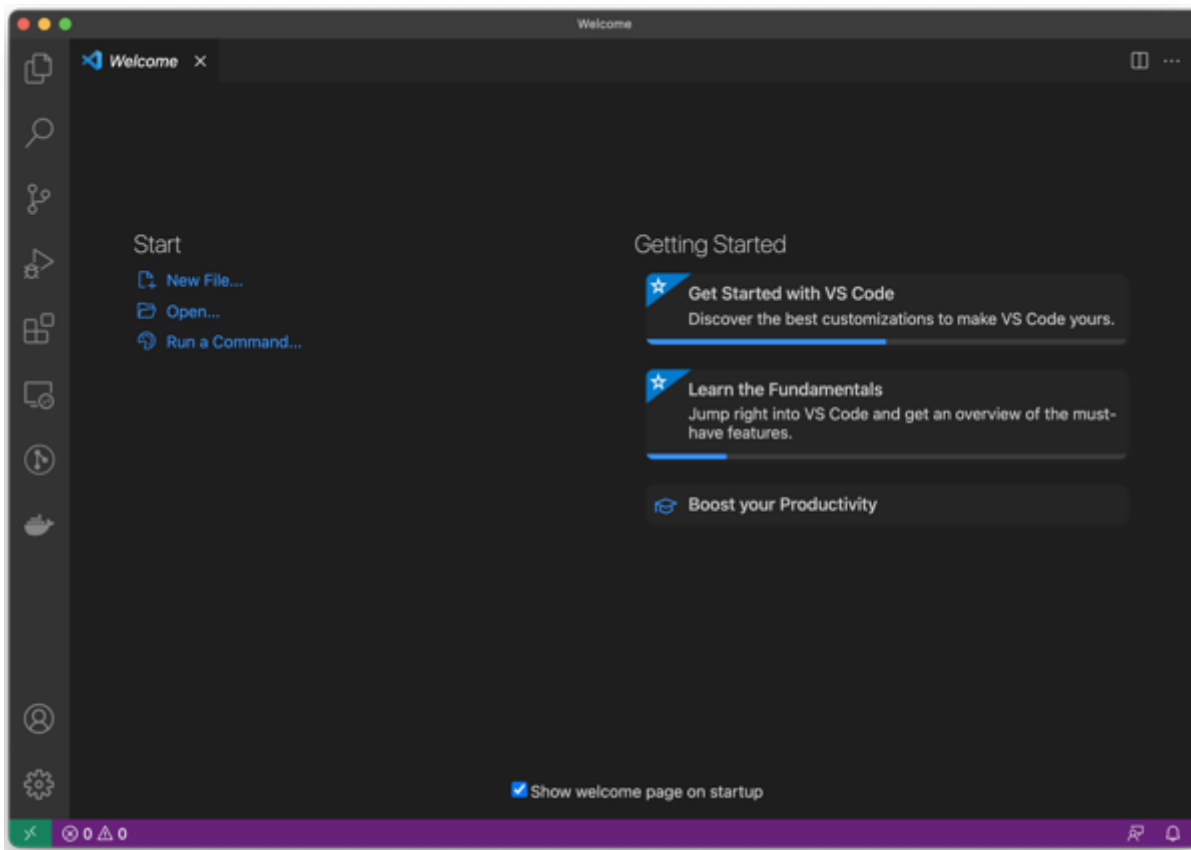


1.2 Install Visual Studio Code

Open the Finder and locate the archive file **VSCode-darwin-stable.zip** in your **Downloads** directory (assuming, of course, that your downloads are saved to this directory location). Double-click the file to uncompress the contents. **Visual Studio Code.app** should now appear in your **Downloads** directory. Drag **Visual Studio Code.app** to your **Applications** directory.

💡 Once you've added **Visual Studio Code.app** to your **Applications** directory, you can drag the blue program icon to the dock to simplify accessing the application.

Click the VS Code icon to start the program and display its welcome page.



💡 VS Code's user documentation is both helpful and friendly. Commence with the [Getting Started](#) section of the documentation, in particular the [user interface](#) overview. The VS Code team has also produced a set of [introductory videos](#) that are worth watching.

2.0 Extensions

VS Code is highly customizable. It features an extensions marketplace that allows users to install third-party extensions to enhance the development environment. See the VS Code [Extension Marketplace](#) page for more information on how to search, install, and manage extensions.

For SI 506 we request that you install the following extensions:

- Python (required)
- Trailing spaces
- Markdown Preview Enhanced
- Markdown Emojis
- Rainbow CSV
- vscode-icons

2.1 Install the Python extension (required)

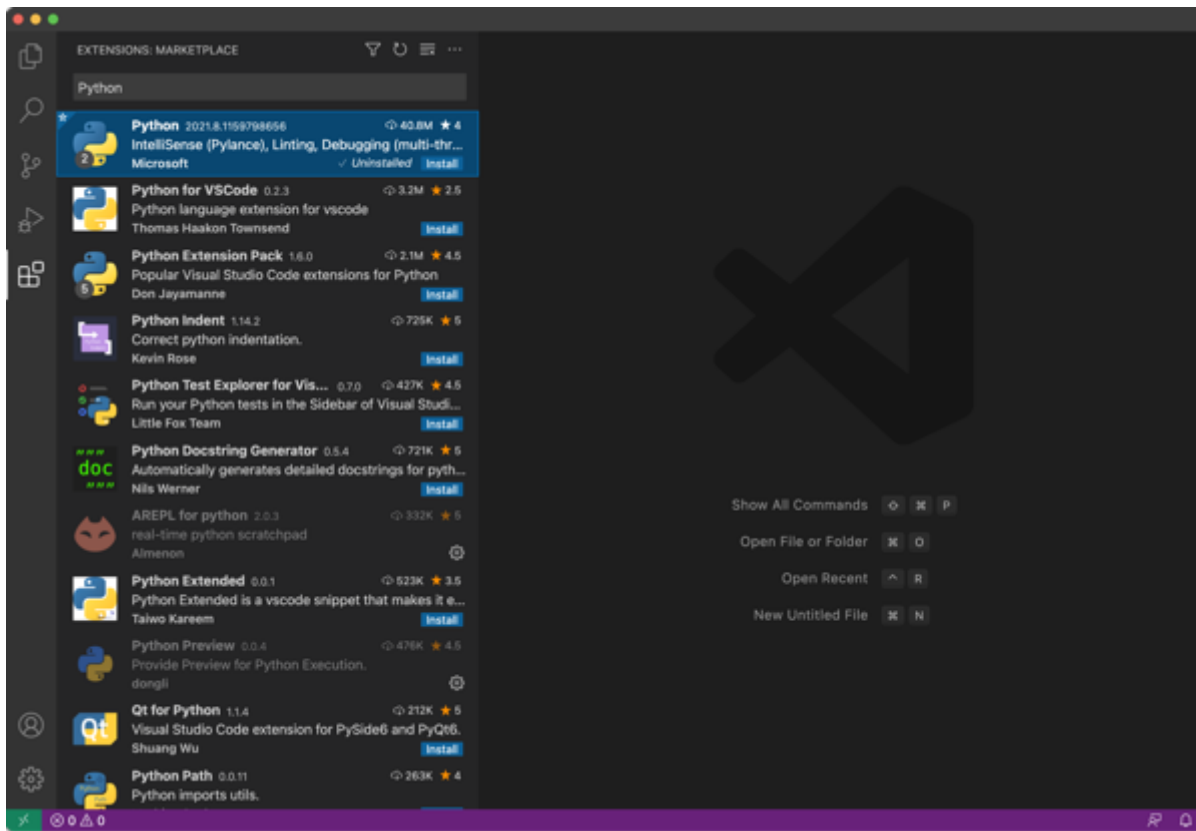
The Python extension provides rich support for the Python language, including intellisense, code formatting, linting, debugging, and other useful features. This is a required extension that you **must** install.

On the left-side of the VS Code user interface is positioned a vertical **activity bar** containing the following icons arranged vertically from the top:

- File explorer: two layered docs icon
- Search: magnifying glass icon
- Source Control: three dots connected by 2 lines icon
- Debugger: triangle overlayed with a bug
- **Extensions**: three connected tiles and one disconnected tile

Click on the “Extensions” icon to open the extensions marketplace. In the search box type “Python”. After the extension is retrieved, click the green “Install” button.

⚠ Select the “Python” extension (40 million + installs) not the “Python for VS Code” extension.



With the Python extension installed VS Code is ready for you to start coding.

However, there are other useful extensions you should consider installing in order to enrich VS Code's user interface. Below are three extensions that I recommend.

2.2 Install the Trailing Spaces extension

Another useful extension that highlights extra and unnecessary trailing spaces found in your code. Besides manual clean up, the extension provides an easy means to delete trailing spaces found in the file that you are currently editing.




Click on the "Extensions" icon to open the extensions marketplace. In the search box type "Trailing Spaces". After the extension is retrieved, click the green "Install" button.

2.3 Install the Markdown Preview Enhanced extension

During lecture I am likely to display content in two panes: 1) a Markdown file (*.md) in *preview* mode comprising lecture notes and 2) a “scratch” Python (*.py) file used for writing code during class. While VS Code supports Markdown without the need for additional extensions, the Markdown Preview Enhanced extension adds additional previewing features.

Click on the “Extensions” icon to open the extensions marketplace. In the search box type “markdown preview enhanced”. After the extension is retrieved, click the green “Install” button.

2.4 Install the Markdown Emoji extension

I use emojis (e.g., , , ) to highlight warnings, recommendations, and notes. The Markdown Emoji extension renders the emojis visible in preview mode.

Click on the “Extensions” icon to open the extensions marketplace. In the search box type “markdown emoji”. After the extension is retrieved, click the green “Install” button.

2.5 Install the Rainbow CSV extension

Another “colorizing” extension that highlights comma-separated (.csv) and tab-separated values when you open a *.csv or *.tsv file that uses a comma, semicolon, or pipe delimiter. You’ll benefit from this extension later in the semester.

2.6 Install the vscode-icons extension

Delightful eye candy that provides an extended set of directory and file icons that simply file type recognition.

Click on the “Extensions” icon to open the extensions marketplace. In the search box type “vscode-icons”. After the extension is retrieved, click the green “Install” button.

⚠ Once installed restart VS code (i.e., close/open the app). You should then be presented with a message to activate the new icons.

2.7 Disable/uninstall the code runner extension

Occasionally, a student installs the [code runner](#) extension. Doing so changes the color of the run button (upper right) from green to grey and, when running a Python file in VS Code, opens the output tab rather than the terminal tab in the run pane. There is nothing wrong with this behavior; it simply results in a different run pane view than what the teaching team will display during lectures and labs.

If the code runner extension is not required for another class, work or project we recommend that it be disabled or uninstalled. Be sure to restart VS Code after disabling or uninstalling the extension.

Otherwise, the workaround is to right-click on the Python file and select “Run Python File in Terminal”. A terminal session will be invoked, the file run, and the run pane will open to the Terminal tab.

3.0 Settings

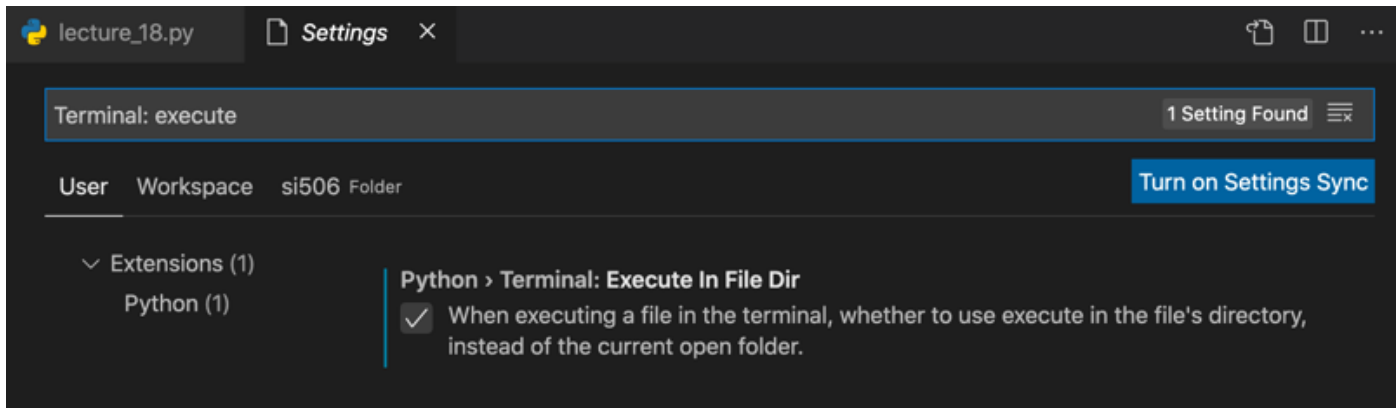
3.1 Enable Execute in File Dir (required)

⚠ Later in the semester you will read from and write to files stored locally on your file system by running Python files from inside VS Code. In order to avoid triggering a `FileNotFoundException` you **must** enable VS Code’s “Execute in File Dir” terminal setting.

Do the following:

1. Click Code -> Preferences -> Settings.
2. In search box type: “Terminal: execute”.
3. Check the settings under Extensions -> Python.

4. Enable the "Python > Terminal: Execute In File Dir" setting by clicking on the checkbox.
5. Close the settings tab

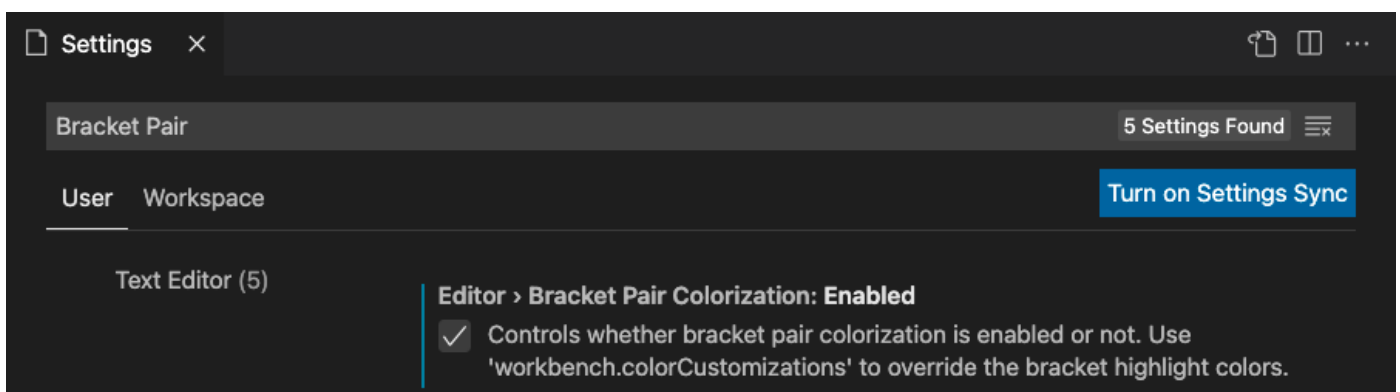


3.2 Enable Bracket Pair Colorization

This useful setting colorizes matching brackets and braces as an aid to identification. Click on the "Extensions" icon to open the extensions marketplace.

Do the following:

1. Click Code -> Preferences -> Settings.
2. In search box type: "Bracket Pair".
3. Check the settings under Text Editor.
4. Enable the "Editor > Bracket Pair Colorization: Enabled" setting by clicking on the checkbox.
5. Close the settings tab



⚠ This setting was formerly a community-provided extension. If you previously installed this extension it has now been deprecated and should be uninstalled in favor of enabling the new setting as described above.

4.0 Write some code

4.1 Create scratch.py

On the welcome page under “Start” click “New file”. Select text editor if prompted to do so. Write the following line of code:

```
print('I just installed VS Code.')
```

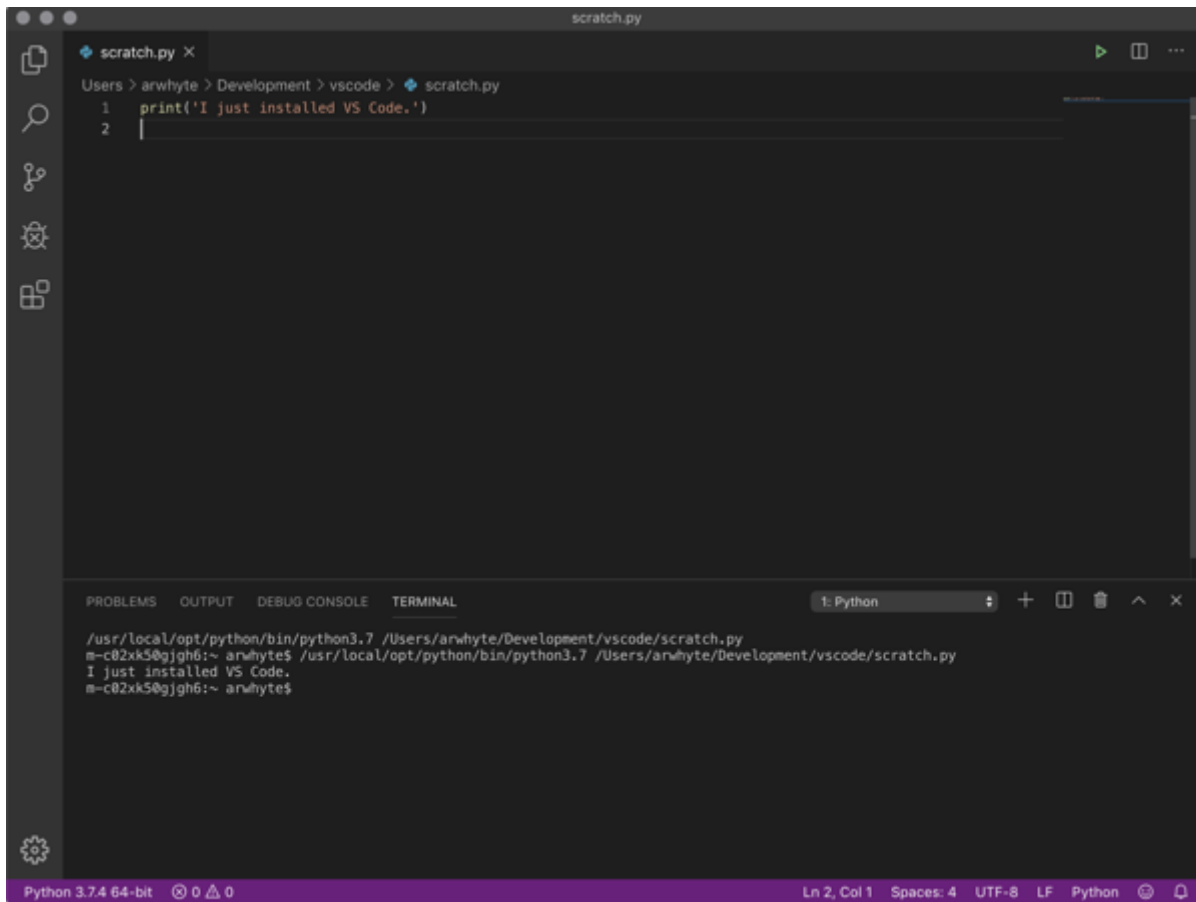
Then on the top menu click *File* -> *Save* or *Save as...*

Name the file `scratch.py`.

💡 the extension `.py` indicates that this is a Python file.

4.2 Run scratch.py

Now, click the green run icon (upper right) to run `scratch.py`. VS Code will start the terminal, run your file, and print the string “I just install VS Code” in the terminal pane.



```
scratch.py X
Users > arwhyte > Development > vscode > scratch.py
1 print('I just installed VS Code.')
2

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1: Python

/usr/local/opt/python/bin/python3.7 /Users/arwhyte/Development/vscode/scratch.py
m-c02xk5@gjgh6:~ arwhyte$ /usr/local/opt/python/bin/python3.7 /Users/arwhyte/Development/vscode/scratch.py
I just installed VS Code.
m-c02xk5@gjgh6:~ arwhyte$

Python 3.7.4 64-bit 0 0 Ln 2, Col 1 Spaces: 4 UTF-8 LF Python
```

Appendix A. Managing extensions

VS Code makes it easy to manage your extensions. You can install, disable, update, and uninstall extensions through the activity bar extensions view, the Command Palette (commands have the Extensions: prefix) or command-line switches.

A.1 View installed extensions

Click on the activity bar extensions icon. The extensions view will be displayed. Click on the three dots ("...") to the right of the "EXTENSIONS" heading. Select "Show Enabled Extensions." The extension(s) that you have installed will be listed.

A.2 Recommended/Popular extensions

Again click on the three dots ("...") to the right of the Extensions heading, and select "Show Recommended Extensions." You will be presented with a number of recommended extensions which you can install once you become more familiar with VS Code, Git, Github and other technologies and platforms.

A.3 Uninstall/Disable extensions

To uninstall an extension, click the extensions icon in the activity bar. Scan your "enabled" extensions and then click the gear icon to the right of the extension entry. Choose "Uninstall" from the drop-down menu. This will uninstall the extension and prompt you to reload VS Code.

If you don't want to permanently remove an extension, you can instead disable it temporarily by clicking the gear icon and selecting "Disable". You can disable an extension either globally or just for the current workspace. You will be prompted to reload VS Code after you disable an extension.

If you need to disable all installed extensions, click on the three dots ("...") to the right of the Extensions heading and select "Disable All Installed Extensions". Extensions remain disabled for all VS Code sessions until you re-enable them.

