

# Python & VS Code setup instructions

## 1. Download Python

Download Python using the appropriate link below.

Windows: <https://www.python.org/ftp/python/3.8.6/python-3.8.6-amd64.exe>

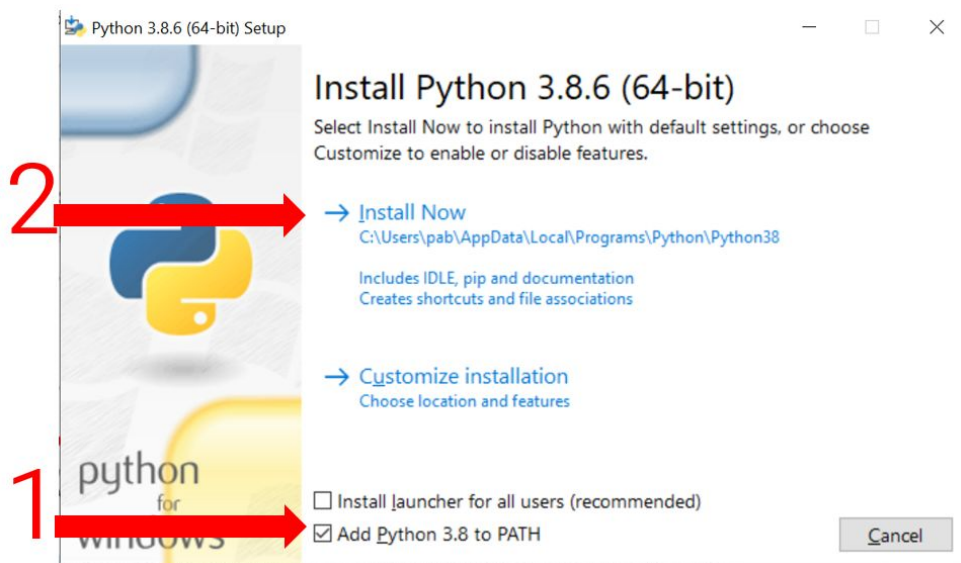
Mac: <https://www.python.org/ftp/python/3.8.6/python-3.8.6-macosx10.9.pkg>

DO NOT INSTALL PYTHON FROM THE WINDOWS APP STORE (OR MAC APP STORE). IT WILL NOT INSTALL EVERYTHING REQUIRED. THERE IS A REASON WE ARE GIVING YOU THIS LINK, PLEASE USE IT!

*Please do not install an alternative version of Python without checking with Mr Baumgarten. Our dependencies require 64 bit and are not yet compatible for v3.9.*

## 2. Install Python

- **TICK THE BOX** to add Python 3.8 to PATH - it will cause all sorts of headaches later if you don't!
- Run the **INSTALL NOW** option. Accept ALL DEFAULTS. Changing the defaults WILL CAUSE PROBLEMS LATER. Trust us.



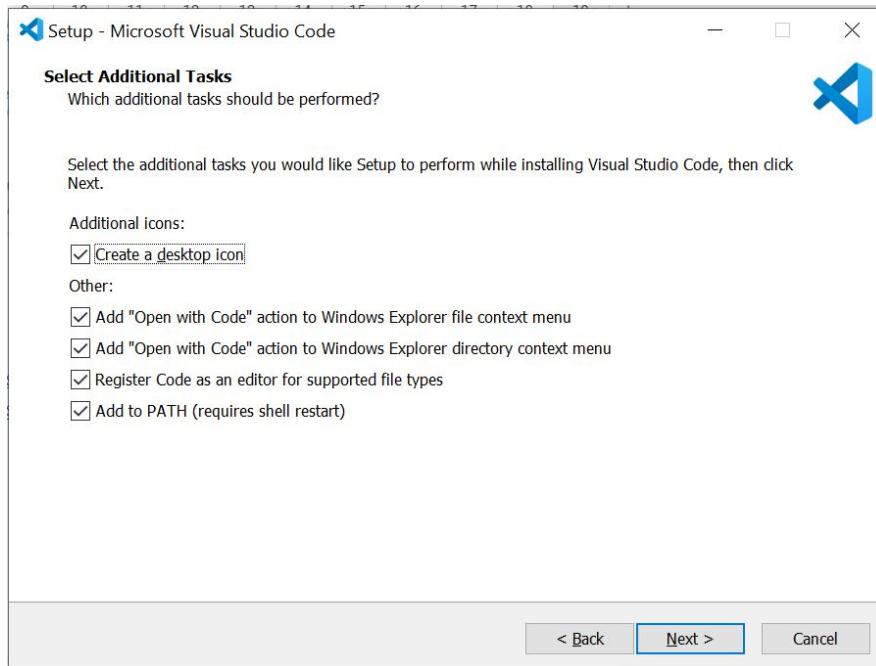
### 3. Download VS Code

Windows: <https://vscode-update.azurewebsites.net/latest/win32-x64/stable/>

Mac: <https://vscode-update.azurewebsites.net/latest/darwin/stable/>

### 4. Install VS Code

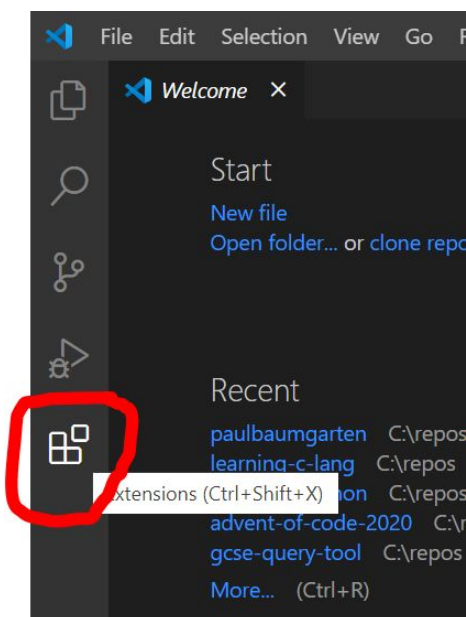
- When presented, please turn ON all these options



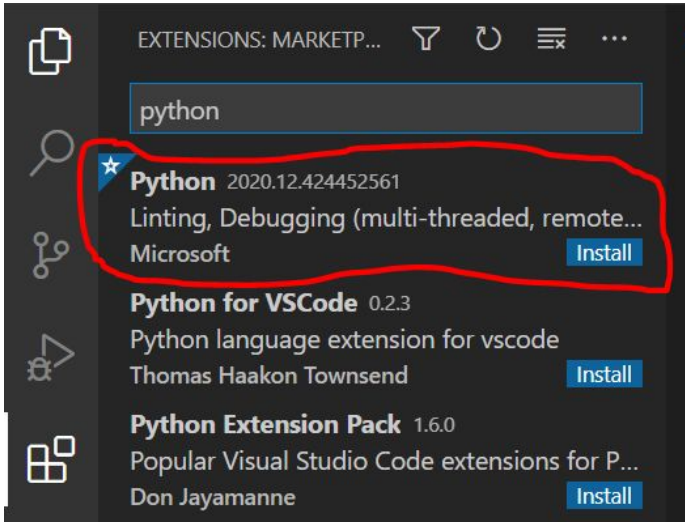
- “Launch VS Code” when offered at the end of the install, and move on to step 5.

### 5. Install VS Code extensions

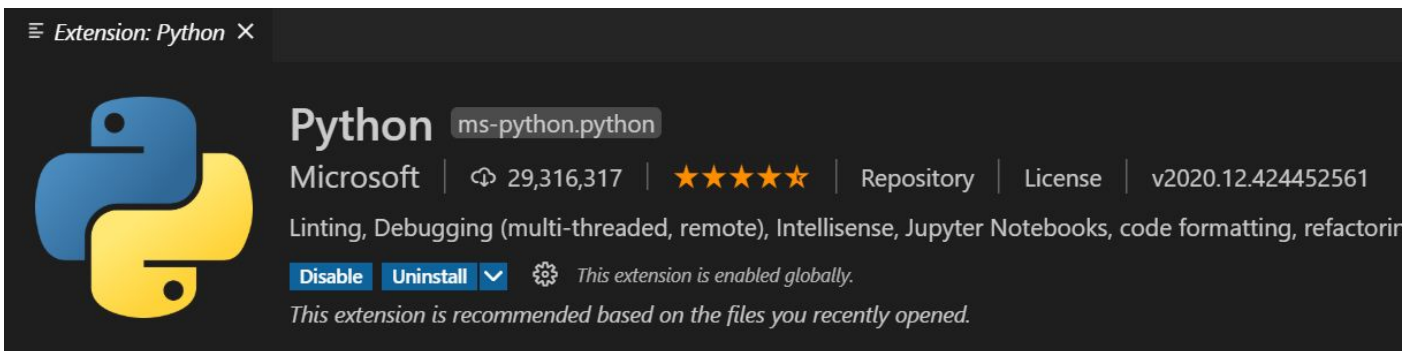
Click the Extensions icon on the left side-bar as shown



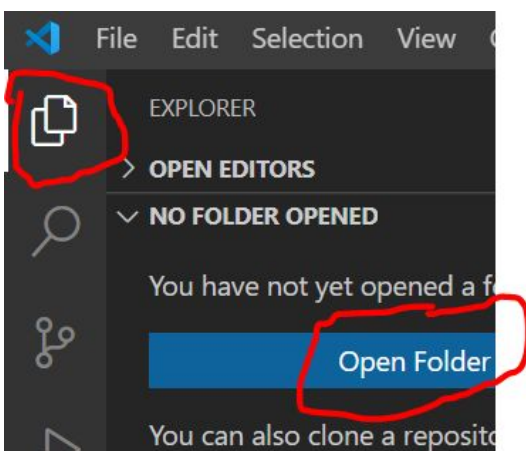
In the search bar that appears, type python, and click the blue install button on the Python extension by Microsoft as shown below.



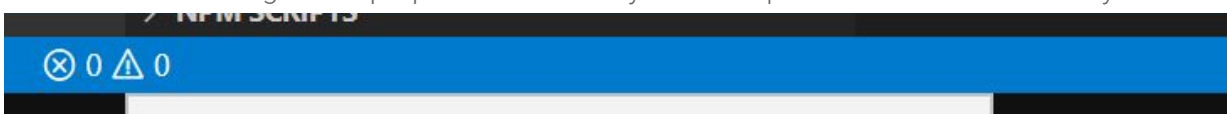
When this info screen appears with the “disable” and “uninstall” buttons, it means the installation has completed.



Click the Folder view icon on the left sidebar (the top one as highlighted below) and then click Open Folder.

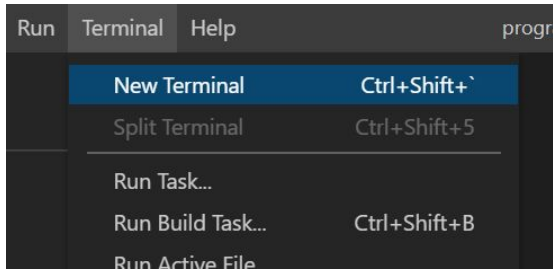


Open the folder you want VS Code to save your project work in. The coloured bar running across the bottom of VS Code will change from purple to blue when you have opened a folder successfully.



## 6. Install Python packages

Use VS Code to open a terminal session via the menu bar across the top.



In the Terminal Window, type `pip -V` ... and you should get a line similar to the one below indicating pip is installed.

If you get a message **'pip' is not recognized as an internal or external command, operable program or batch file** then you have not installed Python correctly. Uninstall Python and do it again following the instructions more carefully.

A screenshot of a terminal window in VS Code. The terminal title is '1: cmd'. The output shows the Windows version and copyright information, followed by the command `C:\Users\pab\Desktop\programming>pip -V` and its output: `pip 20.2.1 from c:\users\pab\appdata\local\programs\python\python38\lib\site-packages\pip (python 3.8)`. The prompt `C:\Users\pab\Desktop\programming>` is visible at the bottom.

Once you know pip is working, install the Python packages required for your unit as follows:

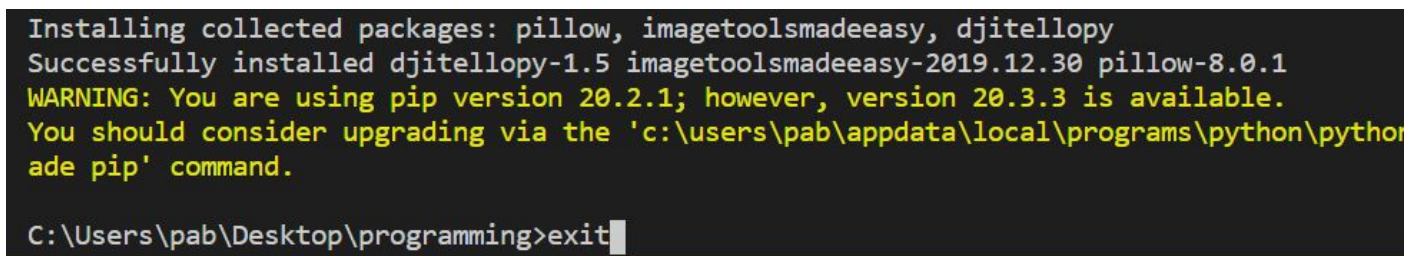
For Digital Design Instalife unit, run

- `pip install --user pillow imagetoolsmadeeasy`

For Digital Design Robotics & drones unit, run

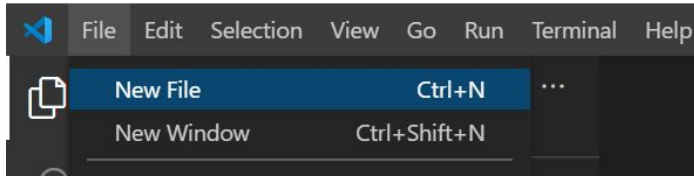
- `pip install --user pillow imagetoolsmadeeasy djitellogy pycozmo`

A large wall of text will appear as pip installs the packages. Provided the end of the text includes a message that says, "Successfully installed" such as the screenshot below, you are safe to proceed. (you can ignore a pip version warning). Type `exit` to close the terminal window.

A screenshot of a terminal window showing the output of a pip install command. The output includes: `Installing collected packages: pillow, imagetoolsmadeeasy, djitellogy`, `Successfully installed djitellogy-1.5 imagetoolsmadeeasy-2019.12.30 pillow-8.0.1`, and a `WARNING: You are using pip version 20.2.1; however, version 20.3.3 is available. You should consider upgrading via the 'c:\users\pab\appdata\local\programs\python\python38\lib\site-packages\pip' command.` The prompt `C:\Users\pab\Desktop\programming>` is visible at the bottom, followed by the command `exit`.

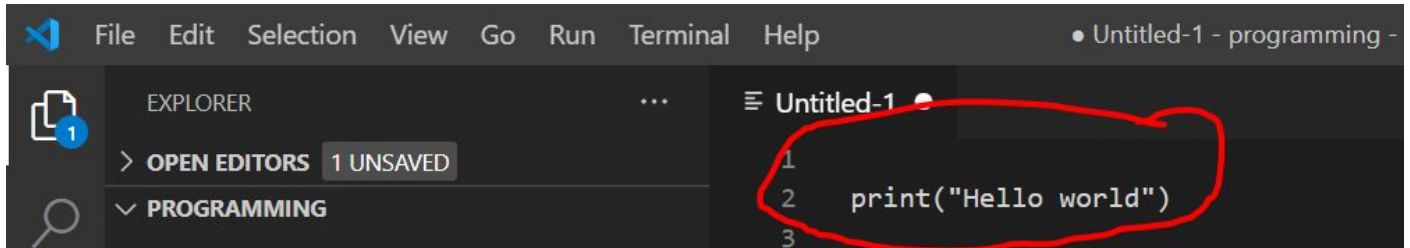
## 7. Test everything works

Create a new file

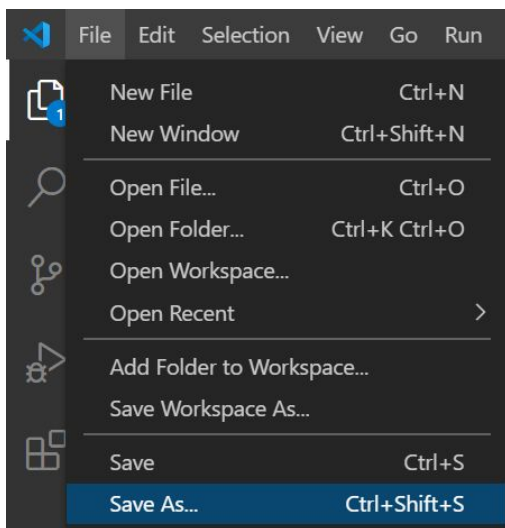


In the editor area, type

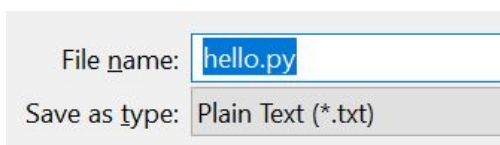
```
print("Hello world")
```



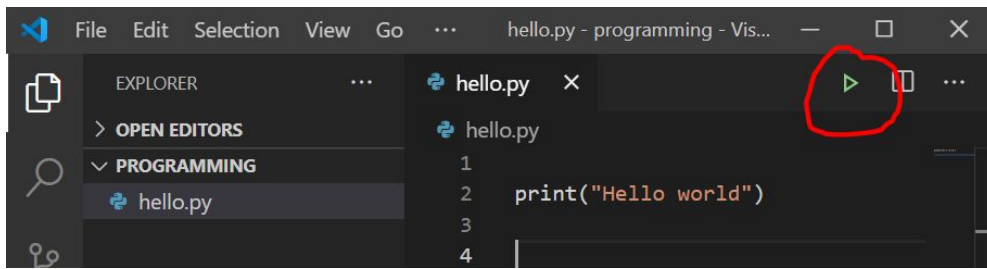
Use the menu to select File / Save As



Make sure the filename ends in .py to tell VS Code this will be a Python file.



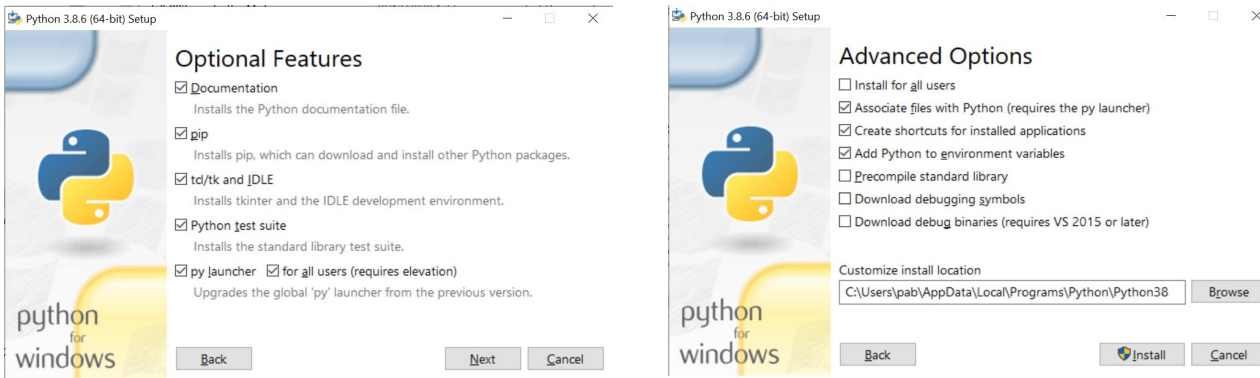
It might take a few seconds the first time, but once successfully saved you will get a green play button that will run your code.



You should be ready to start the first lesson!

# Troubleshooting

The main problem that occurs is students not installing the pip tool with Python, or installing a 32bit version of Python. These are the Python defaults. They are required.



Some useful pip commands...

To check the version of pip and where it is installed

- `pip -V`

To install a package without using the cache

- `pip install --no-cache-dir --user packagename`

To force pip to reinstall a package when it doesn't think it needs to

- `pip install --upgrade --force-reinstall --user packagename`

List all the packages installed

- `pip list`

Delete everything in the pip cache

- `pip cache purge`

Some useful Python commands

```
import sys, platform
print("Location: ",sys.executable)
print("Version: ",sys.version_info)
print("64 or 32: ",platform.architecture())
```