

Installing PyCharm

In Code in Place, you will be writing your code on your computer using an application called [PyCharm](#). PyCharm is what is known as an IDE, or *Integrated Development Environment*, which means that it allows us to edit our code, browse our files, run our programs and debug them, all in the same place. It's one of the most popular Python IDEs in the world, and used extremely commonly in industry. This handout is intended to take you through installing PyCharm on your own computer.

Installing Python

In order to be able to run Python programs on your computer, you need to install a *Python Interpreter*. An interpreter is a program that is capable of reading a .py file that you have written, and translating the Python code in that file to instructions that your computer can easily execute. Begin by downloading Python:

- [Windows 64-bit installer](#) (If you're using a relatively new Windows computer, download this file)
- [Windows 32-bit installer](#) (If you're using an older Windows computer, download this file)

Installing Python on Windows

Open the downloaded file. Before installing, there should be an option that says "Add Python 3.8 in PATH". **Make sure to check this box.** Then, continue installing normally.

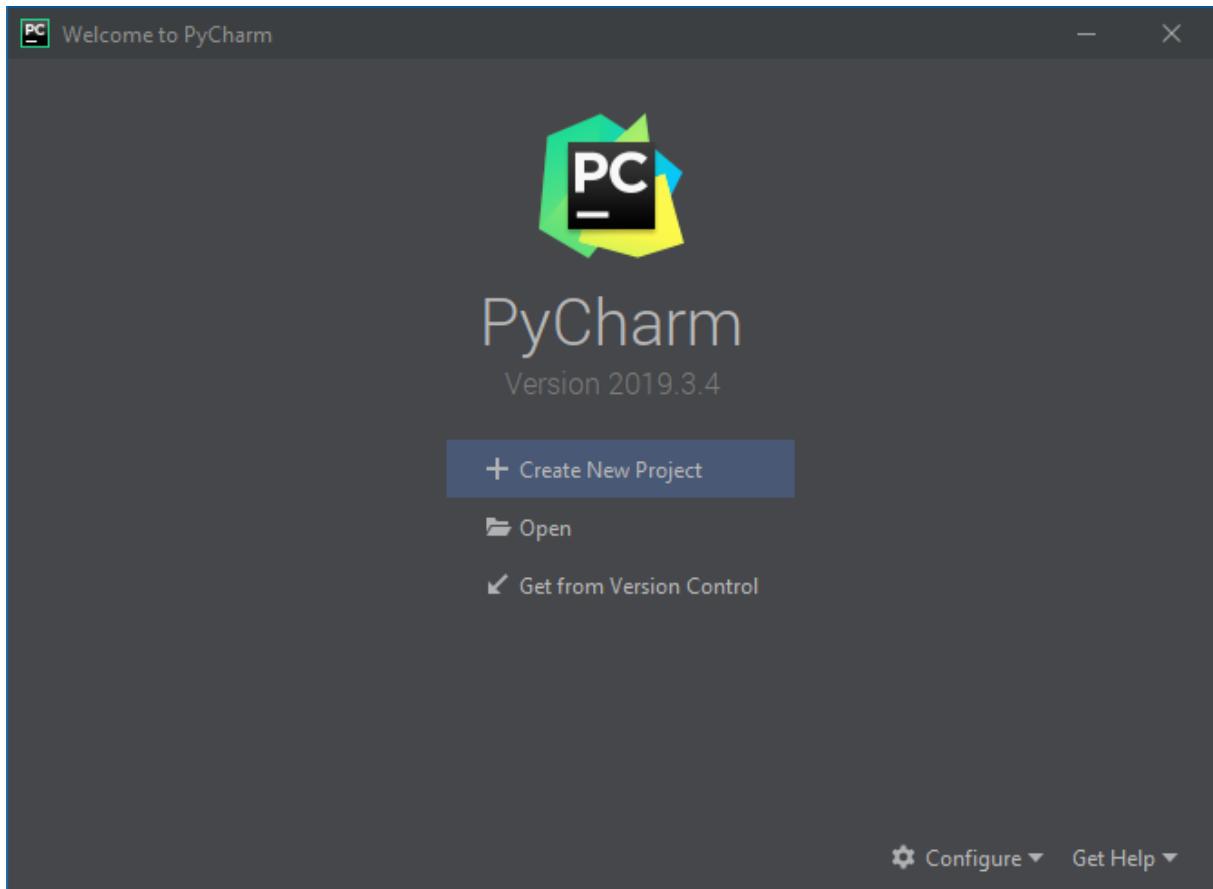
Installing and Testing PyCharm

Installation

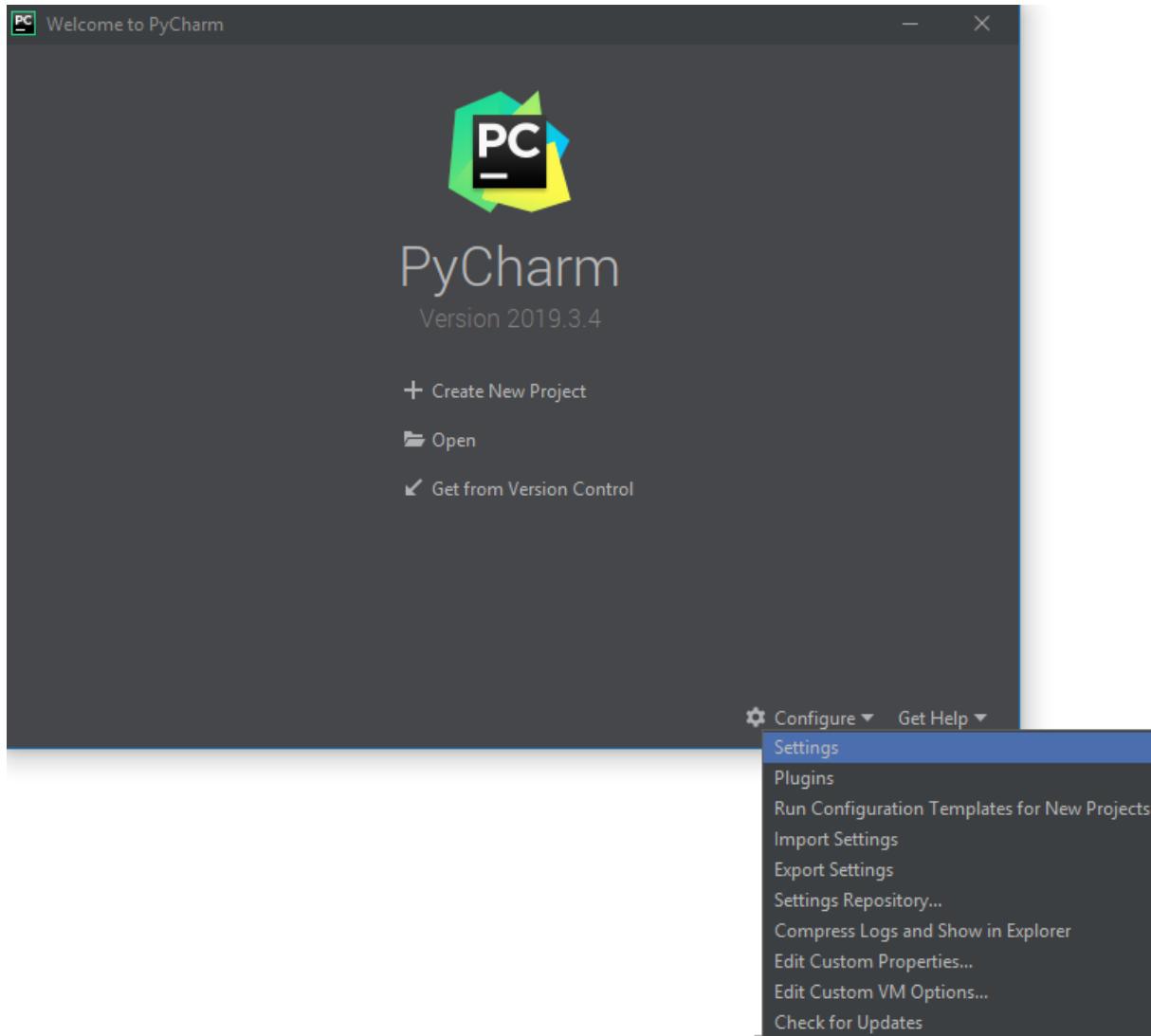
To get started, download and install the community version of PyCharm:

- [Windows Download](#) (Open the downloaded .exe file and install PyCharm, using all the default options.)

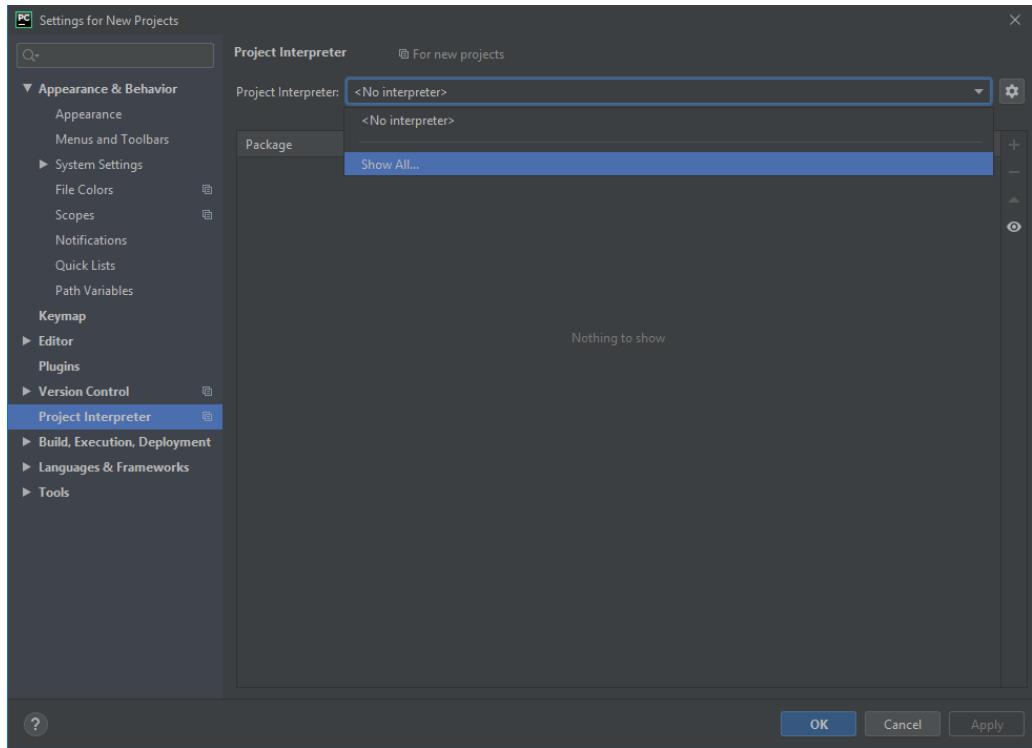
At the end of the PyCharm installation process, you will be taken to a welcome screen that looks like this:



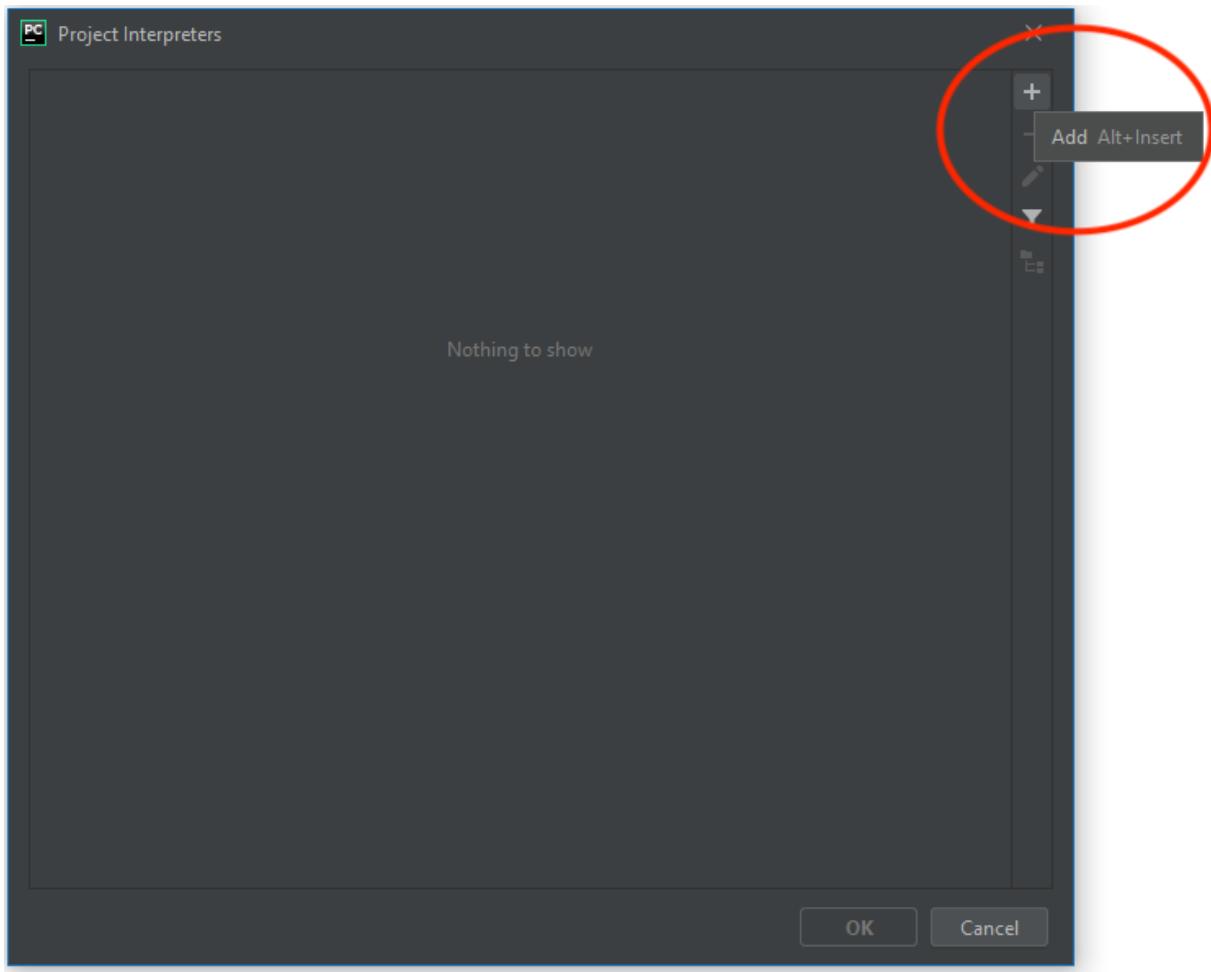
Click 'Configure' and then open PyCharm's settings, like so:



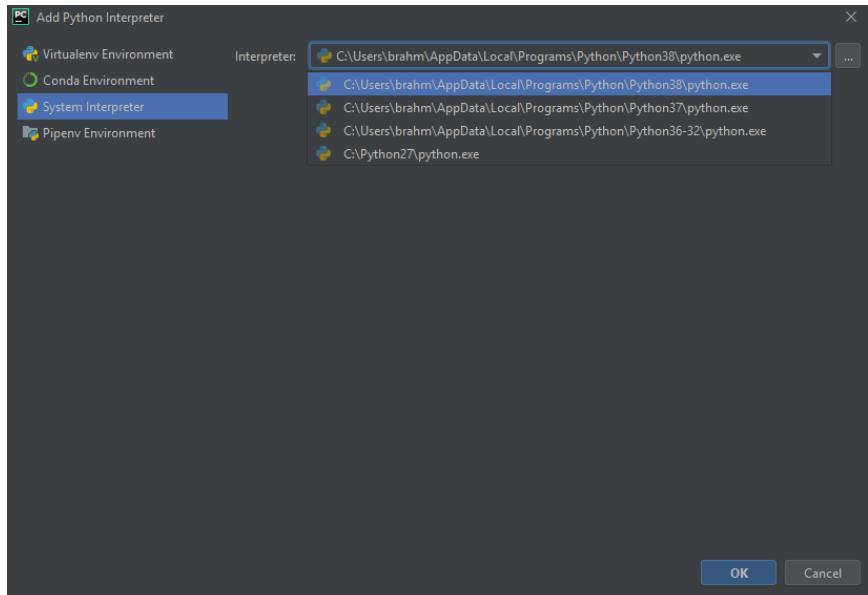
In the Preferences window, click 'Project Interpreter', open the dropdown menu, and click 'Show All':



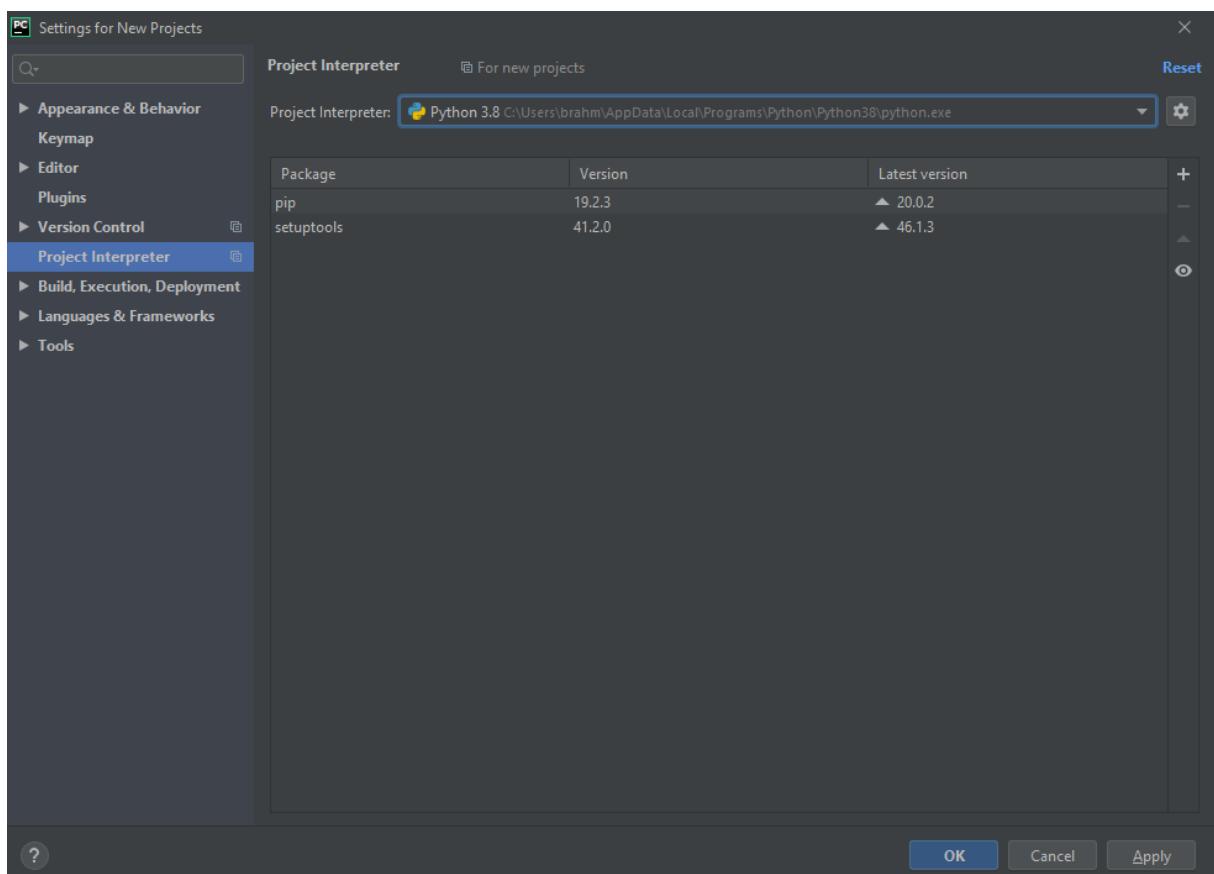
In the following Window, click the plus icon in the bottom left corner:



Click 'System Interpreter' in the sidebar. Depending on whether you've installed other versions of Python before, Python 3.8 may already be selected in the dropdown menu. If not, select Python 3.8 and then click 'OK' and 'OK' again:



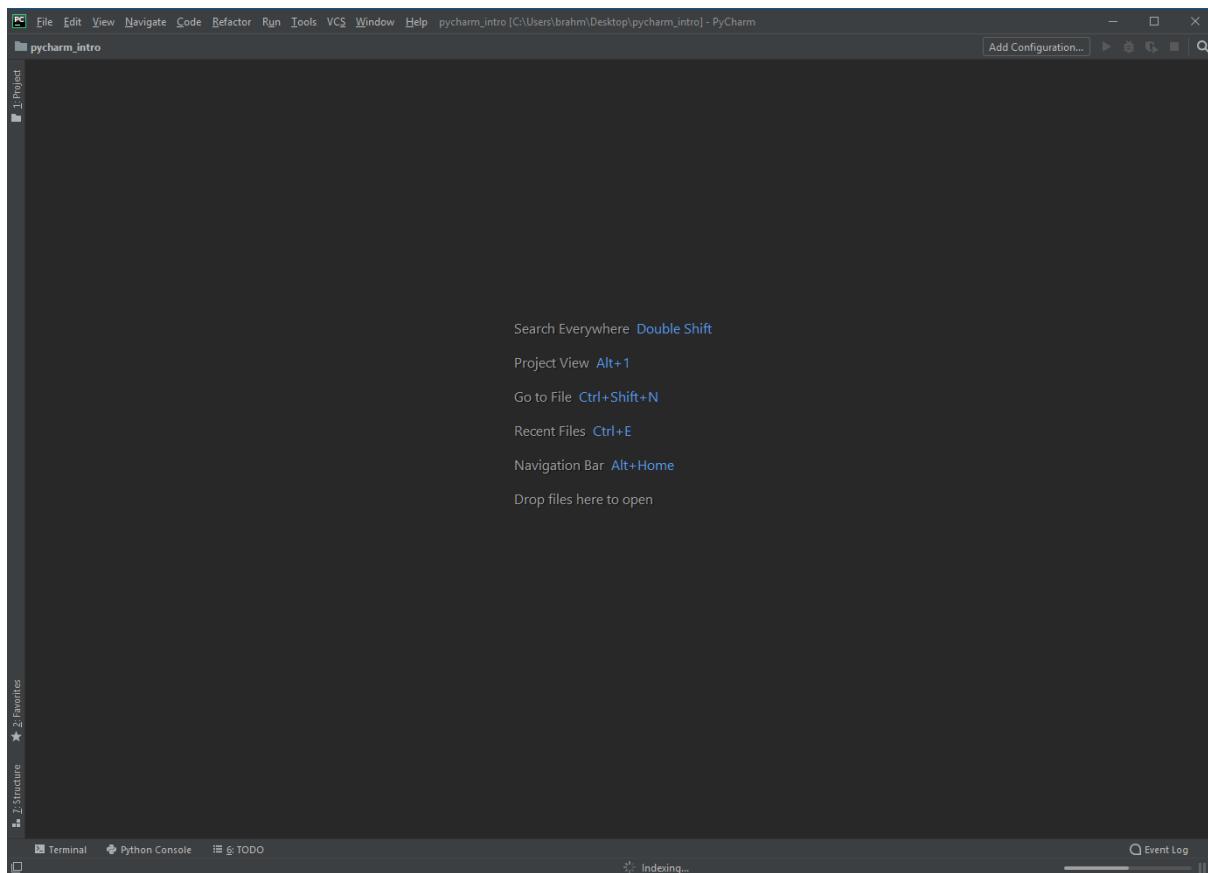
You should now be on a window that looks like this (although the contents of your list might look different):



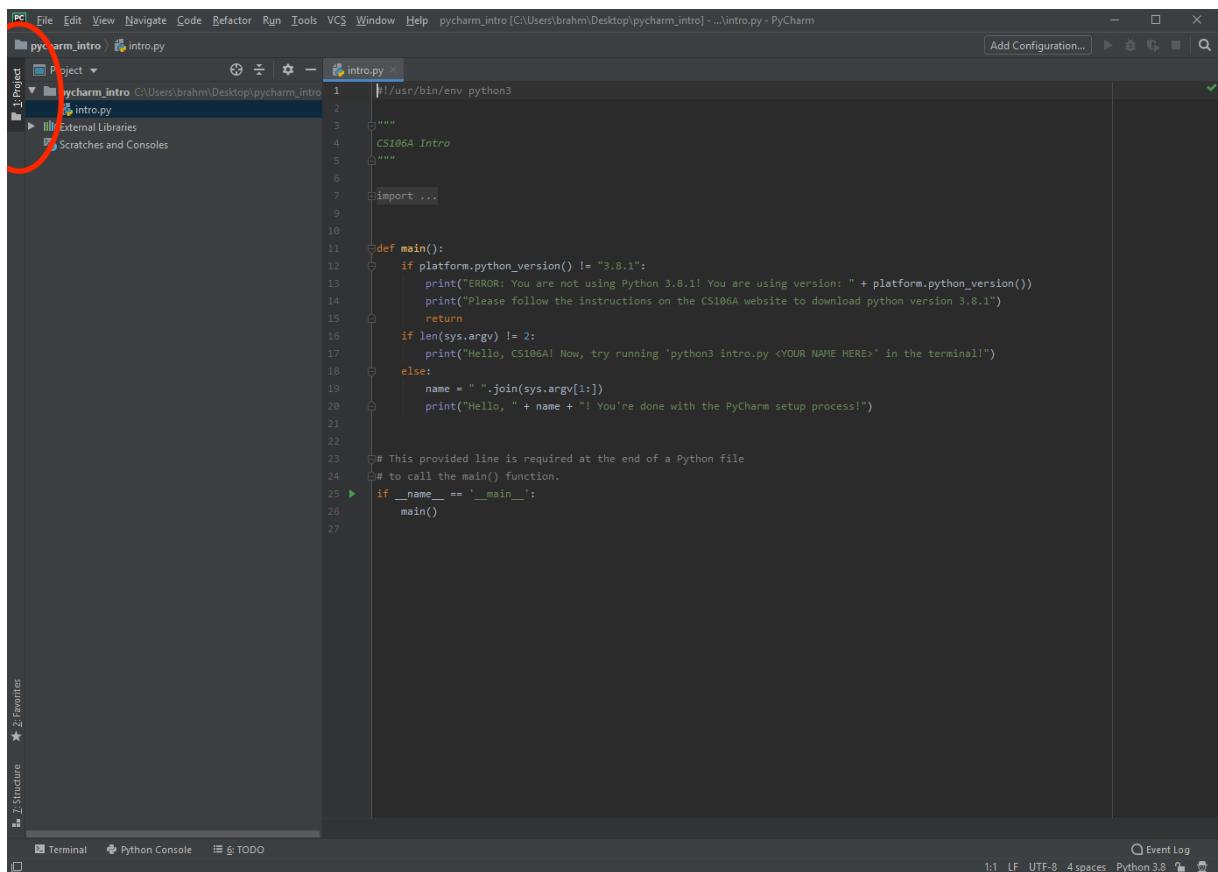
Click 'OK' again to be taken back to the welcome page. You're now ready to test PyCharm!

Testing PyCharm

PyCharm models a program as a 'project', which consists of one or more Python files, as well as any additional resources like images or text files. To get you familiar with working with and running programs in PyCharm, we've provided a sample project, which you can download [here](#). To test out this project, and to gain familiarity with the PyCharm environment, download the sample project (on Windows, you'll need to manually unzip it by opening it in Windows Explorer and selecting 'Extract All') and open it in PyCharm (using the 'open' option on the first screen). **Whenever you open projects in PyCharm, open the folder directly containing the files you want to edit as opposed to just the files themselves.** Upon opening the project, you should be greeted by a window that looks like this:



Click 'Project' in the top left or use the Alt + 1 shortcut to open the file explorer, and open intro.py to pull up the editor:



```
#!/usr/bin/env python3
"""
CS106A Intro
"""

import ...

def main():
    if platform.python_version() != "3.8.1":
        print("ERROR: You are not using Python 3.8.1! You are using version: " + platform.python_version())
        print("Please follow the instructions on the CS106A website to download python version 3.8.1")
        return
    if len(sys.argv) != 2:
        print("Hello, CS106A! Now, try running 'python3 intro.py <YOUR NAME HERE>' in the terminal!")
    else:
        name = ".join(sys.argv[1:])
        print("Hello, " + name + "! You're done with the PyCharm setup process!")

# This provided line is required at the end of a Python file
# to call the main() function.
if __name__ == '__main__':
    main()
```

You aren't required to read or understand this code (although you will be able to by the end of the quarter!) but note that this editor is where you'll be writing all your code this quarter.

Now, to run your program, click 'Terminal' in the bottom left corner, which will pull up a new terminal pane in your PyCharm window:

The screenshot shows the PyCharm IDE interface. The top menu bar includes File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, Help, and pycharm_intro (C:\Users\brahm\Desktop\pycharm_intro] - intro.py - PyCharm. A toolbar with icons for file operations is visible. The left sidebar has a Project view with pycharm_intro expanded, showing intro.py and External Libraries. Below the project tree is a Scratches and Console section with a blue icon. The main editor window displays the Python script intro.py:

```
1 #!/usr/bin/env python3
2
3 """
4     CS106A Intro
5 """
6
7 import ...
8
9
10 def main():
11     if platform.python_version() != "3.8.1":
12         print("ERROR: You are not using Python 3.8.1! You are using version: " + platform.python_version())
13         print("Please follow the instructions on the CS106A website to download python version 3.8.1")
14         return
15     if len(sys.argv) != 2:
16         print("Hello, CS106A! Now, try running 'python3 intro.py <YOUR NAME HERE>' in the terminal!")
17     else:
18         name = " ".join(sys.argv[1:])
19         print("Hello, " + name + "! You're done with the PyCharm setup process!")
20
21
22 # This provided line is required at the end of a Python file
23 # to call the main() function.
24 if __name__ == '__main__':
25     main()
```

The terminal below the editor shows the command C:\Users\brahm\Desktop\pycharm_intro> followed by the output of the script:

```
Microsoft Windows [Version 10.0.17134.1060]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\brahm\Desktop\pycharm_intro>
```

We'll talk more about the terminal later in the quarter, but for now, know that the terminal is how you'll be running your Python programs throughout the quarter. To run your first Python program, type this into the terminal and press enter:

```
py intro.py
```

You should see output that looks like this:

The screenshot shows the PyCharm IDE interface with the terminal tab selected. The terminal window displays the command C:\Users\brahm\Desktop\pycharm_intro> followed by the output of the script:

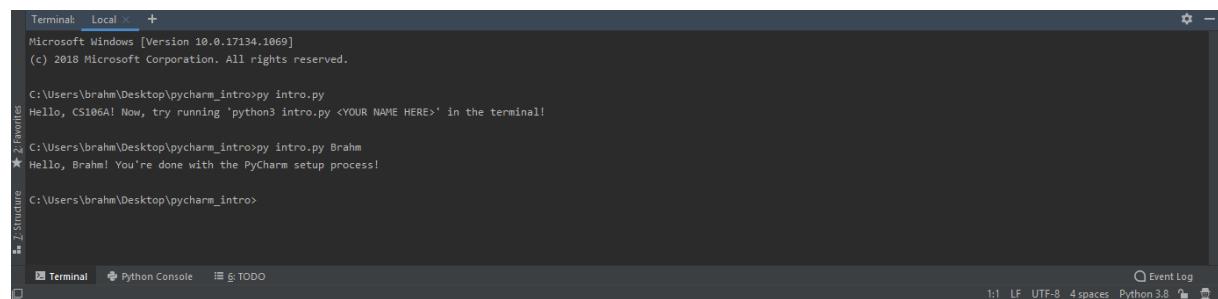
```
Microsoft Windows [Version 10.0.17134.1060]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\brahm\Desktop\pycharm_intro>py intro.py
Hello, CS106A! Now, try running 'python3 intro.py <YOUR NAME HERE>' in the terminal!
```

Now, type the following command into the terminal:

```
py intro.py < YOUR NAME HERE >
```

For example, if your name is Brahm, you'd type py intro.py Brahm. You can type your full name if you'd prefer. You should now see output like this:



A screenshot of the PyCharm IDE interface. The top bar shows 'Terminal' and 'Local'. The terminal window displays the following text:

```
Microsoft Windows [Version 10.0.17134.1069]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\brahm\Desktop\pycharm_intro>py intro.py
Hello, CS106A! Now, try running 'python3 intro.py <YOUR NAME HERE>' in the terminal!
C:\Users\brahm\Desktop\pycharm_intro>py intro.py Brahm
★ Hello, Brahm! You're done with the PyCharm setup process!

C:\Users\brahm\Desktop\pycharm_intro>
```

The bottom status bar shows 'Event Log' and file statistics: 1:1, LF, UTF-8, 4 spaces, Python 3.8.

Congratulations! You're now done with the PyCharm setup process.

Frequently Asked Questions

[Can I use another version of Python?](#)

Our strong recommendation is to use Python 3.8, which can be installed in parallel with other versions of Python. This is the only version of Python we'll be supporting in this class. You must use at least Python 3.6.

[Can I use an editor that isn't PyCharm?](#)

If there's another environment that you're more comfortable with, you may use it, but the course staff will only provide support for issues in PyCharm. You must not modify any configuration files provided in assignment starter code.

When I try to run my code, I'm getting an error saying can't open file intro.py: No such file or directory! What does this mean?

This most often happens when you open the incorrect file or folder in PyCharm. In this case, make sure to open the pycharm_intro folder that *directly* contains intro.py, rather than intro.py itself or a folder containing pycharm_intro. On Windows computer, you may have a folder called pycharm_intro with another folder inside it called pycharm_intro. Make sure to open the inner folder.

To correct this error, open the 'File' menu and click 'Open'. Then, navigate to the correct pycharm_intro folder and open it.

To verify that you are in the correct folder, type dir into your terminal (the same place you type py intro.py < YOUR NAME HERE >). This will show you a list of all the files in that folder, and intro.py should be in this list.

I'm getting a 'No Python Interpreter configured for the project' message when I open a file! What should I do?

This is likely caused by an issue with how you set up the interpreter. To fix this, click 'Configure Python Interpreter', and set up the interpreter by following [these steps](#) until the 'Testing Pycharm' section.

I'm on a Mac and I'm getting a message saying The default interactive shell is now zsh. To update your account to use zsh, please run `chsh -s /bin/zsh`. What should I do?

That's just an innocuous message, don't worry about it!

I'm on a Mac and PyCharm won't open! What should I do?

You might be using a slightly older version of MacOS. Try installing [this version](#) of PyCharm instead.

I'm getting an error window saying "This installation contains JetBrains Runtime 11 which does not support Microsoft Windows 32-bit version"! What should I do?

Try installing [this version](#) of PyCharm instead.