NOTE: there are references to PyCharm Community throughout the course and within these instructions, which is/was a free version of PyCharm. Since 2025, PyCharm has offered a unified product that combines the free and professional versions. For the purposes of this course, the differences are negligible. Any references to the Community version in the instructions will also apply to the new version.

USING PYCHARM TO WRITE PYTHON PROGRAMS

PyCharm is a tool to write and run Python programs. This document shows you how to use PyCharm to create and manage projects. If you have not installed Python and PyCharm, review the other documents that were provided before working with this one.

Note: Some screenshots may show outdated versions of Python and PyCharm. You should use the versions of Python and PyCharm that you were directed to install and configure in the other documents.

CREATING A FOLDER TO STORE PYTHON PROJECTS

Before you start, create a folder on your computer to store your Python projects. For example, on Windows, you can create a folder "CSC121" in the C drive. You can create this folder anywhere you like. You just need to remember where you create it.

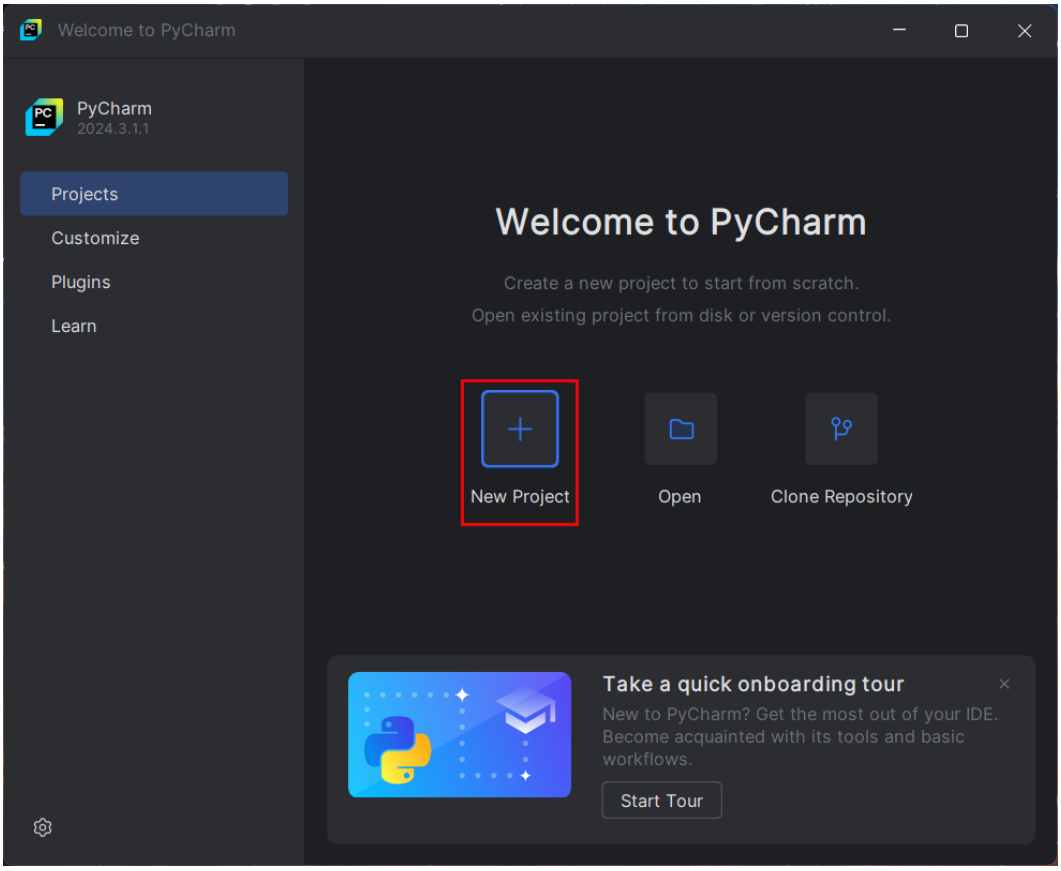
In the upcoming examples, we created a CSC 121 folder on the desktop. That is where the projects for CSC121 will be stored.

STARTING PYCHARM

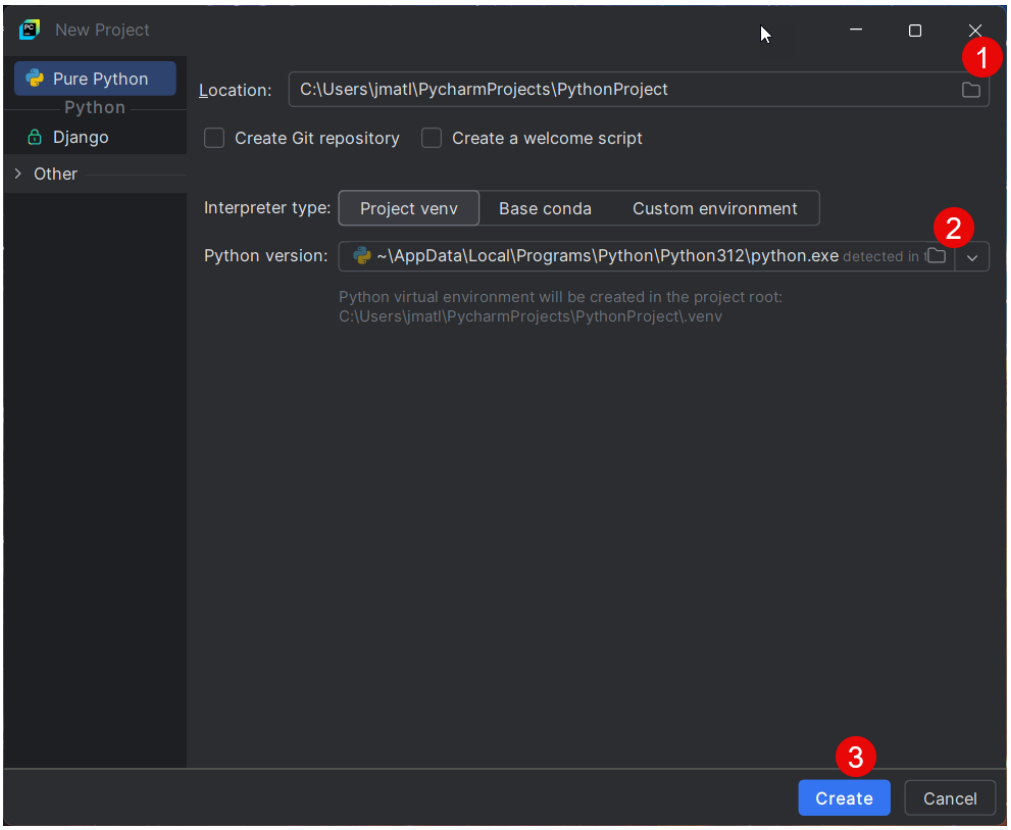
If you already have PyCharm and Python installed and have a desktop shortcut created, please double click it to start PyCharm.

Creating a Python Project

When you start PyCharm, after the splash screen, it will bring you to a page where you can open and create projects:

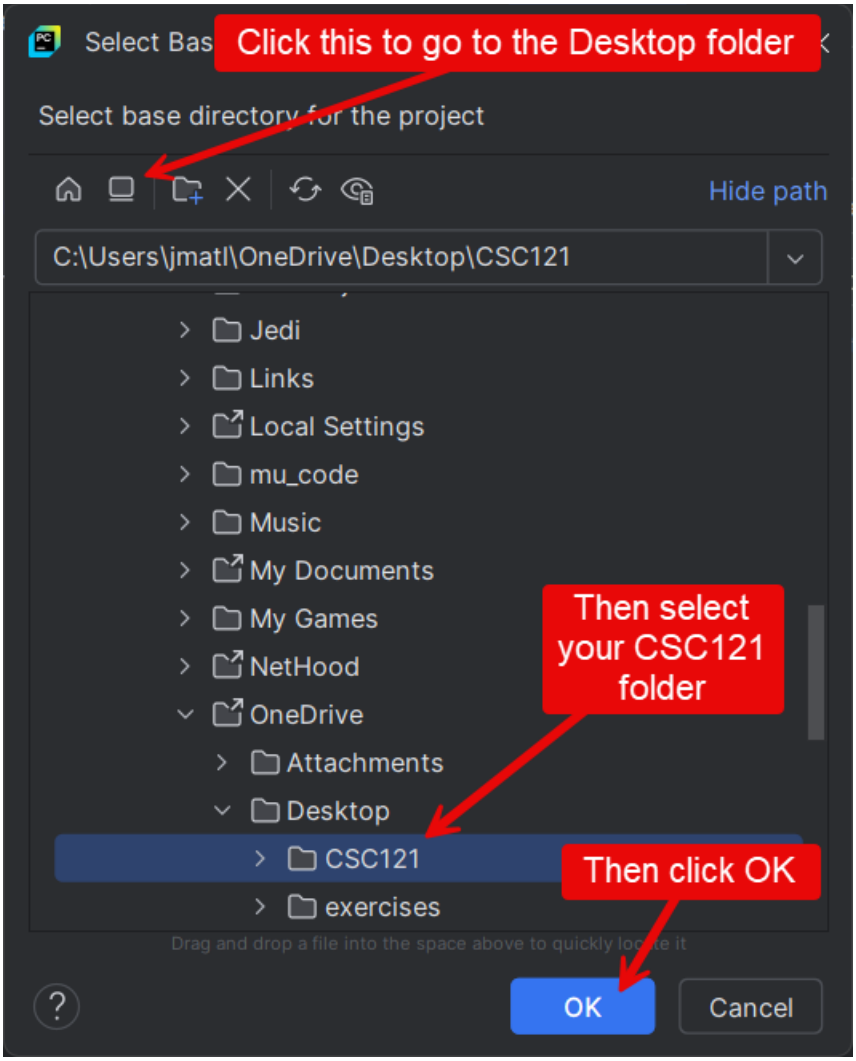


Click "New Project" to create a new Python project. A Python project in PyCharm is a collection of Python programs in a folder. **For each lab assignment**, you need to create a Python project first and then add files to the project.

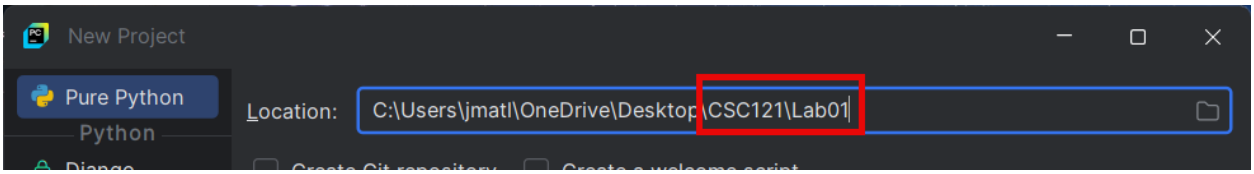


From the New Project dialog, do the following:

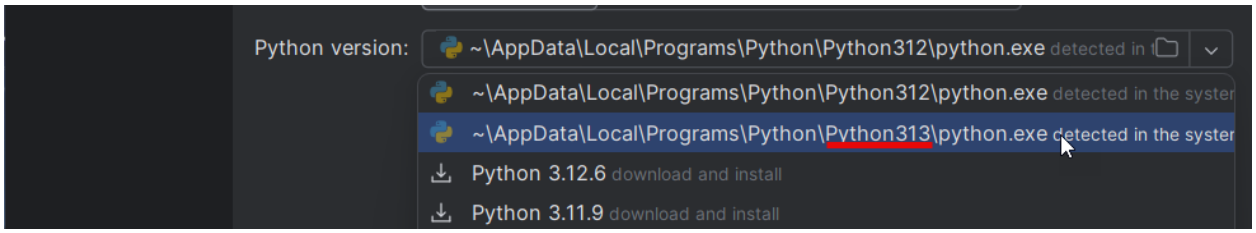
1. Change the **Location** to the folder you created for CSC121 lab assignments and give your project a name.
    a. You can do that by clicking on the folder icon on the right side and then selecting the CSC121 folder from the Select Path dialog.



    b. Then add the name of your project after CSC121. For the first lab assignment, use the name **Lab01**.



2. Make sure the **Python version** is set to Python 3.13.x by clicking on the dropdown and selecting it.

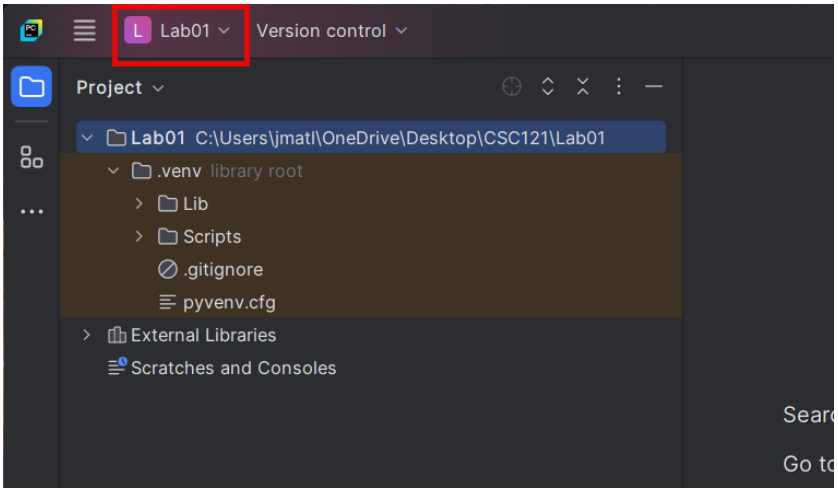


CAUTION: If you do not see or cannot select Python 3.13 in the dropdown, then you may need to take additional steps to configure your PyCharm and Python environment.

If you can't select Python 3.13, hit Cancel in the New Project dialog, then review the "Configuring PyCharm" document posted on Blackboard for instructions.

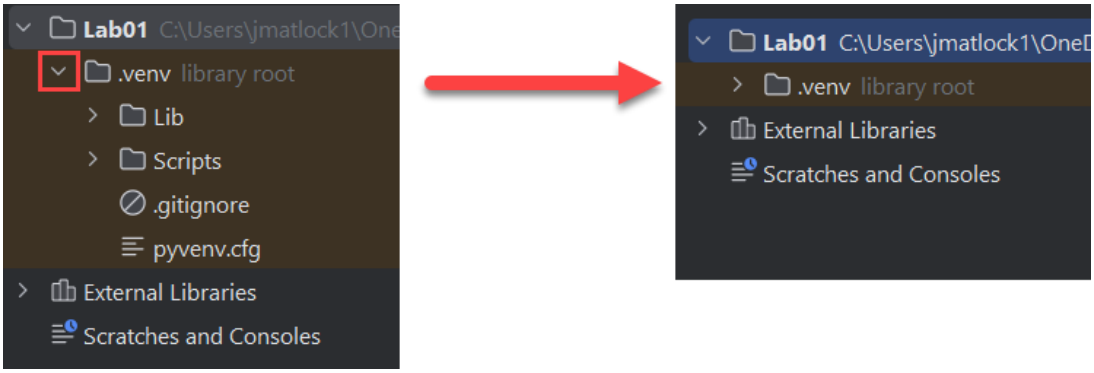
3. After selecting Python 3.13, click on the **Create** button.

Your new project will be created in your CSC121 folder. You will see its name in the title bar of the PyCharm window.



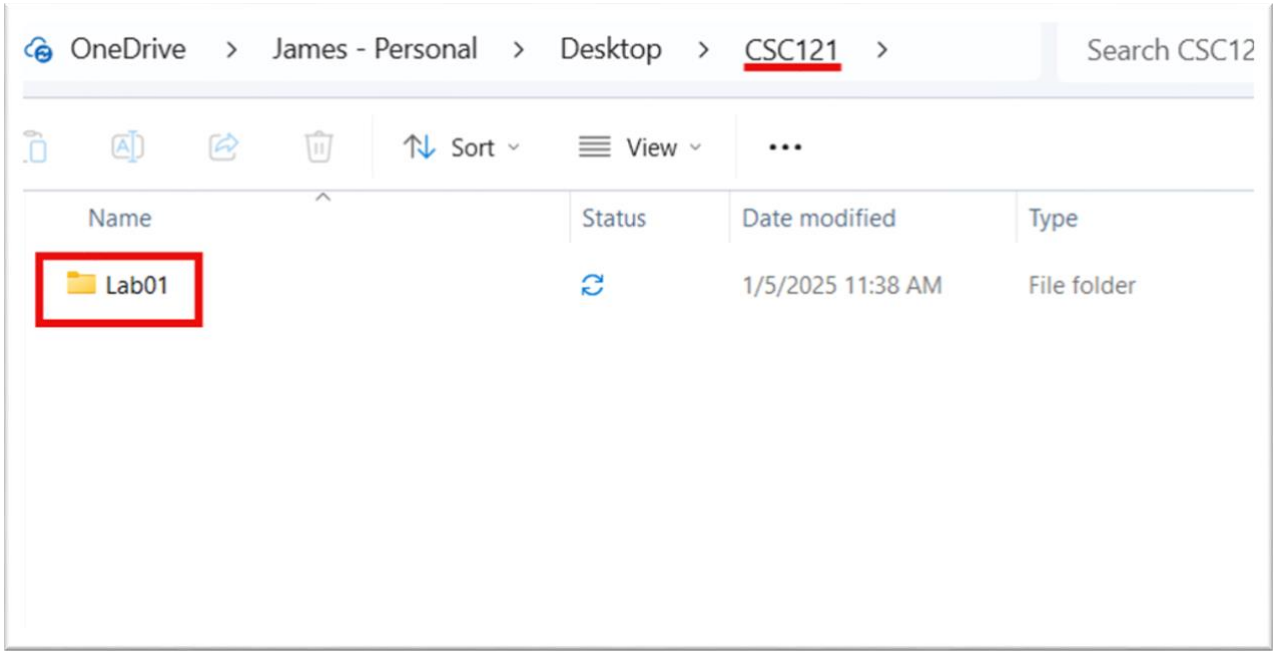
You should also see the project navigator on the left-side of the PyCharm IDE (Integrated Development Environment). If you don't, click on the folder icon on the left to see the project navigator. We'll be using that through the rest of this document.

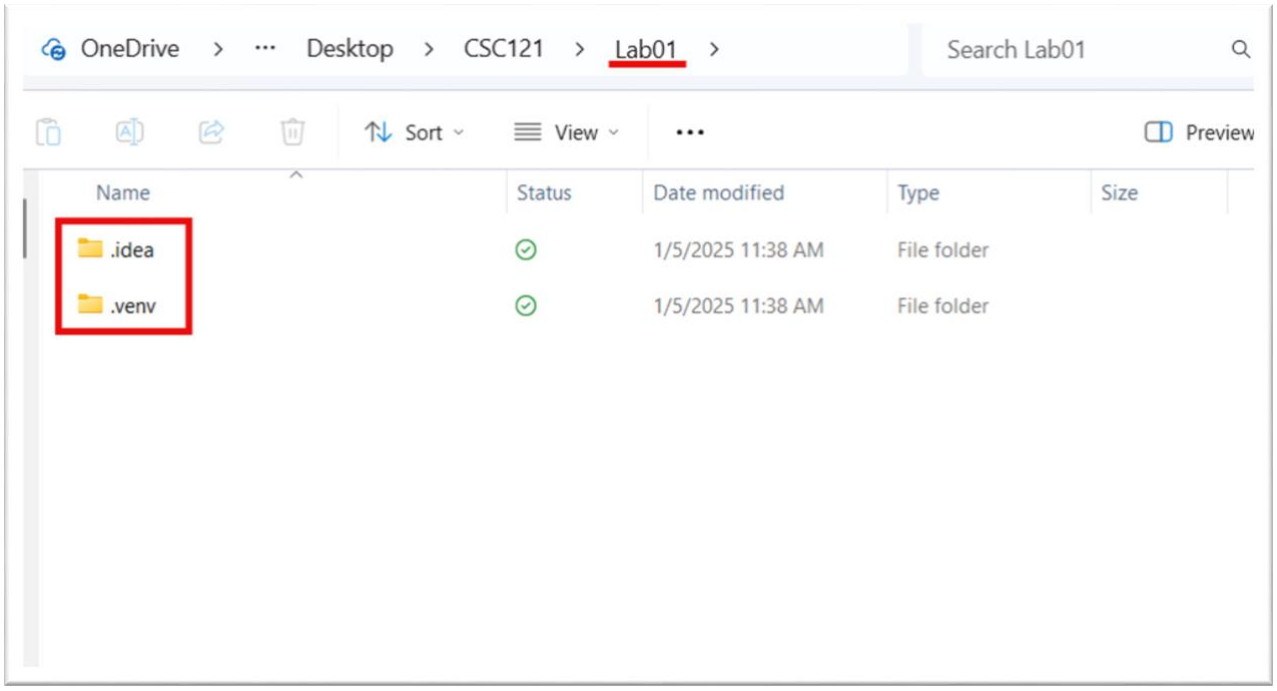
In the project, you will see a .venv folder has been created. That was done by PyCharm to create a **virtual environment** for our project. We will not be doing anything with this virtual environment directly. You may click the symbol next to the .venv folder to close this folder.



You should **never** make changes to the .venv folder.

In your CSC121 folder, you should see where a Lab01 folder has been created and inside that folder you will see two new folders: .venv and .idea.

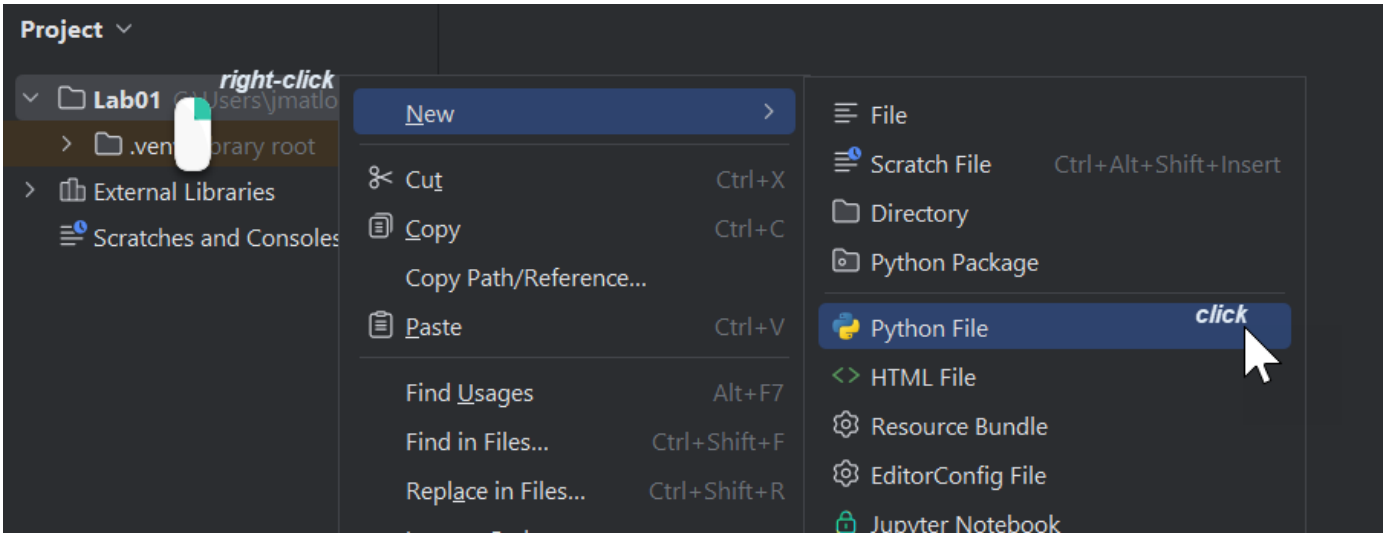




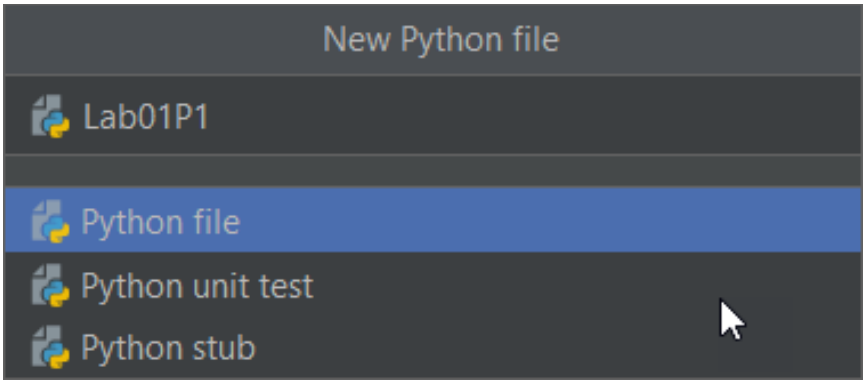
Any new files that are created in your Lab01 PyCharm project will show up here.

CREATING A NEW PYTHON PROGRAM FILE

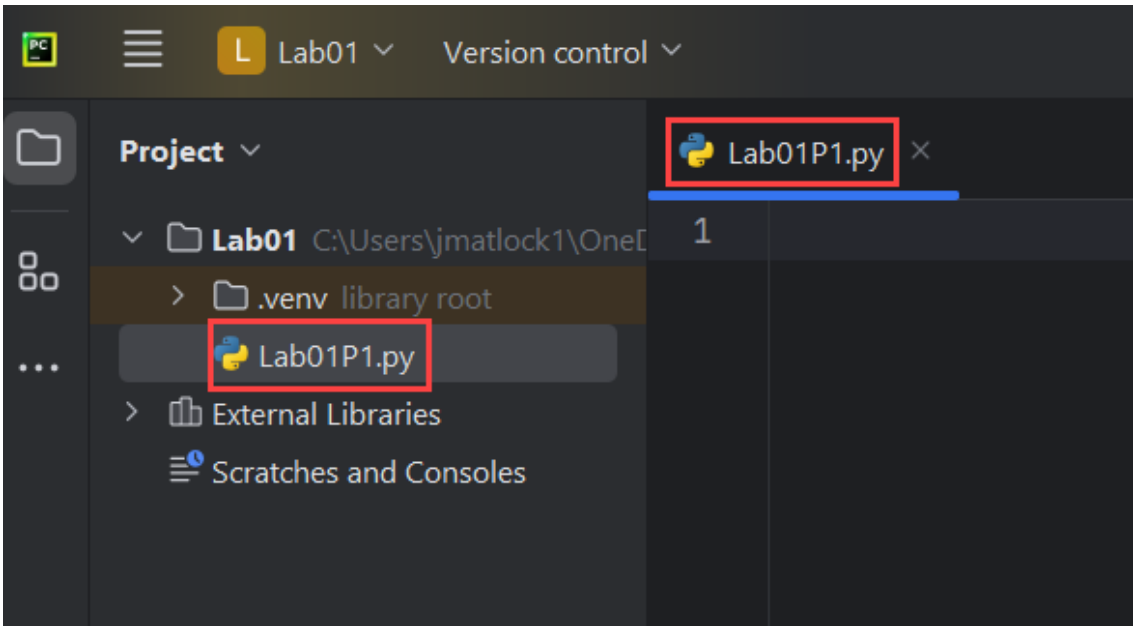
Next, we need to create a new Python file and add it to the project. Right click the name of your project in the project navigator. In our case, it the name "Lab01" under "Project". Then choose "New" in the drop-down menu. Then choose "Python File".



A *New Python file* dialog box will pop up. Make up a name for your Python program. Let's use the name *Lab01P1* since that is the name of our first lab assignment file. Press Enter to continue.



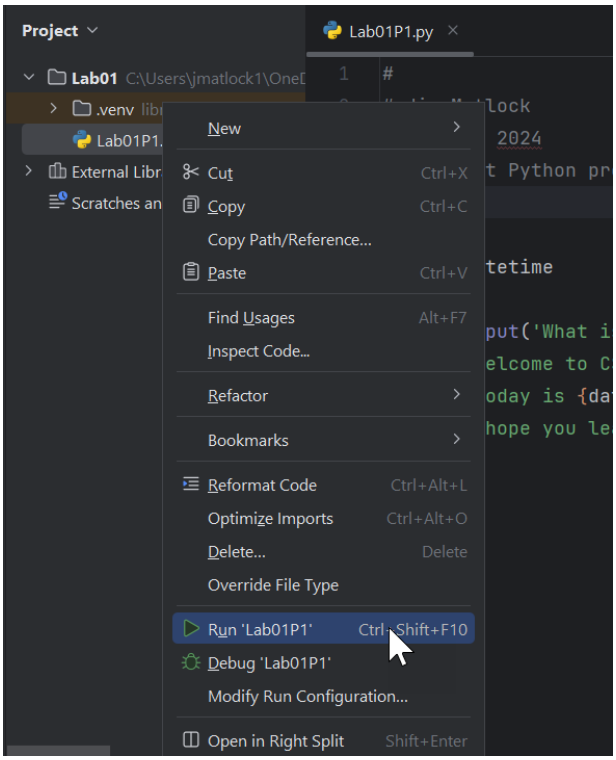
A New Python file named *Lab01P1.py* will be created and added to *Lab01*.



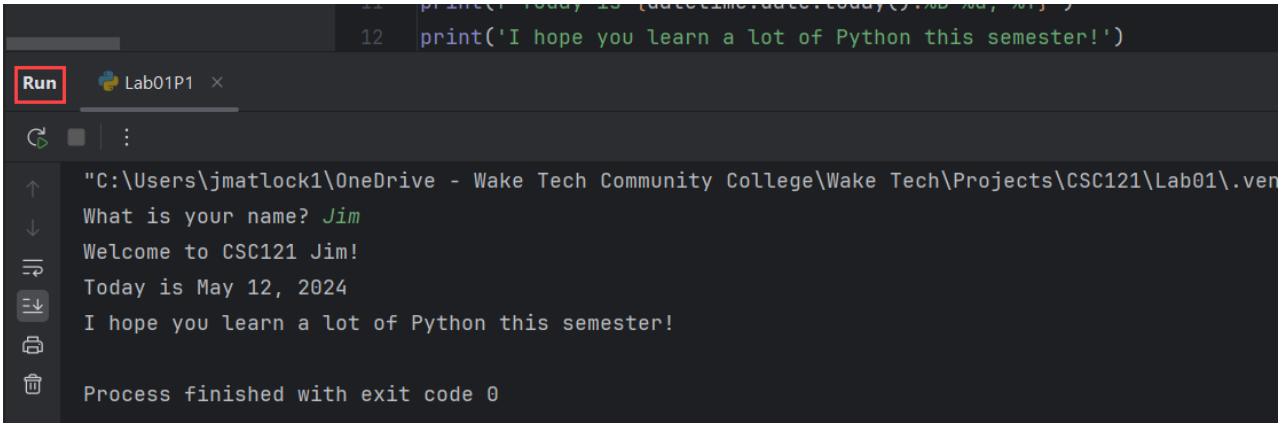
The file Lab01P1.py currently contains no code. Review your Lab 01 assignment and add the code to the file that has been given for that assignment.

RUNNING PYTHON PROGRAMS

Now let's learn how to run a Python program in PyCharm. One way you can run a program is to right click on "Lab01P1.py" in the left panel. Then choose *Run 'Lab01P1'* in the drop-down menu.



A *Run* panel will show up in the lower part of the PyCharm window, which displays output and other run-time messages of the program. Since this program has an input function (on line 9), we type our name and hit enter to get all the results.



We see where the computer asked for our name and then printed out a personal message, the date, and a friendly greeting. The message "Process finished with exit code 0" means the program has finished running with no error.

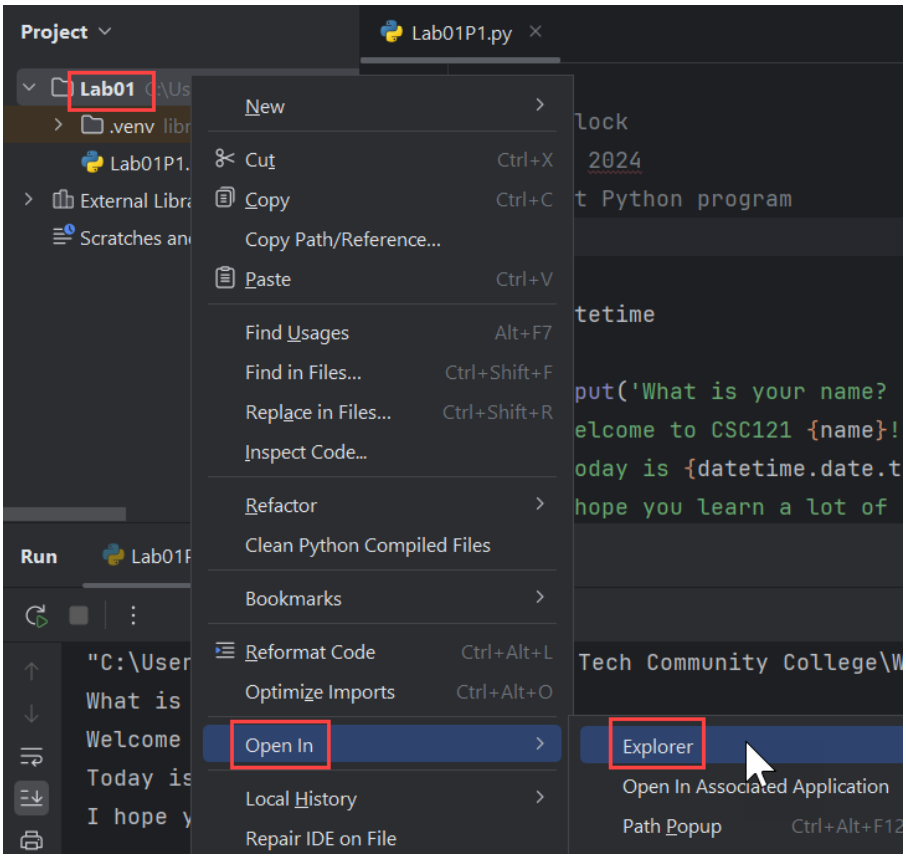
Saving Python Programs

PyCharm auto-saves your file when you run the program or when you close your file. There is no need to save the file yourself.

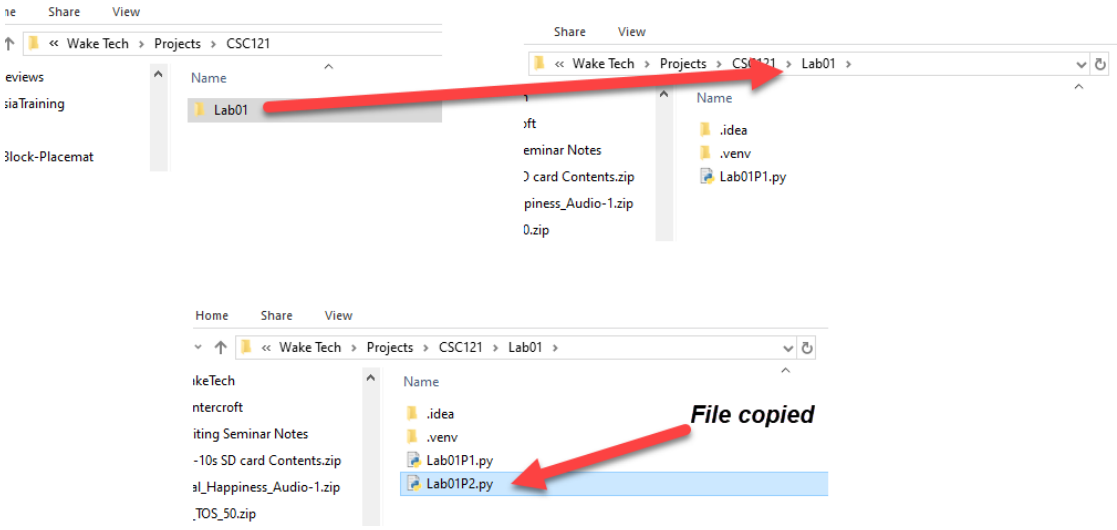
Adding Downloaded Python Files to the Project

In Lesson 01 you have two files that you must download from Blackboard and update to complete your lab assignment. After you download those files, you will need to rename the files and then move them into your Project folder. The easiest way to do this is to open your Project folder on your file system (either Windows Explorer or Mac Finder), and then copy or move the files into the Project folder:

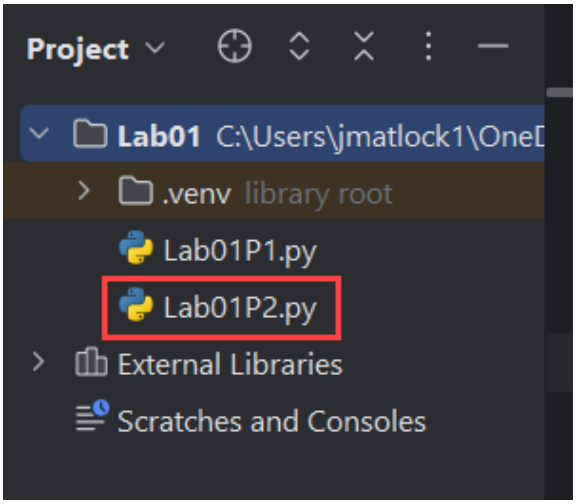
1. In PyCharm, right-click on the Project name in the navigation panel, and choose Open In. For Windows, choose Explorer. For Mac, choose Finder.



2. Open the Folder, then copy or move your downloaded file into that folder.



3. The file will automatically show up in your PyCharm project.



PyCharm Resources

As you work with PyCharm Community more, it should get easier for you to work with the program so you can focus on your Python programs. If you want to learn more about the IDE, here's a couple of resources you can use:

- Work with source code – PyCharm help on using the editor.
- PyCharm keyboard shortcuts – Once you get comfortable with the editor, shortcuts can really be helpful.

Of course, you can also email your instructor if you have any questions. Best of luck!