Setting up your computer for *CSSE 120*

Introduction to Software Development

November 26, 2023

Setting up anything on a computer, especially one that is new to you, can be frustrating.

If you get stuck on anything in these instructions, simply STOP and get help from your instructor or student assistants.

Goal

In this class we will use the **Python** programming language to introduce you to software development. You will install an **interpreter** that runs your Python code. We will also use tools like **PyCharm** and **Git** and cloud storage like that at **GitHub** and **GitHub Classroom** to make it easier to work with Python.

Install ALL of this software, to make sure that you have up-to-date versions of everything. Older versions of Python (for example) may NOT work for everything that we do this term.

Work through this document, page by page, following the instructions to:

- Part 1: **Install Python**
- Part 2: **Install Git**
- Part 3: **Install PyCharm Professional**
- Part 4: **Set up the Python Interpreter in PyCharm**
- Part 5: **Set up Git in PyCharm**
- Part 6: **Sign up for a GitHub account** and **set up GitHub in PyCharm**
- Part 7: **Accept a GitHub Classroom Assignment**
- Part 8: **Clone Starting Code From GitHub to Your Computer**
- Part 9: **Run your first Python program**
- Part 10: **Tailor PyCharm for CSSE 120**

This setup requires downloading a total of roughly 550 MB so you should do it at Rose-Hulman or wherever you have reasonably fast internet access. When you are done, you can remove the installation files (that are probably in your *Downloads* folder).

These instructions are for Windows, but Mac or Linux users can proceed in a similar fashion.
Most students take about *45 to 75 minutes* to do all this setup.

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Important: You will need to install the software using what is called your "*localmgr*" (administrator) account.

When you see a dialog like that to the right:

- Set the *Admin User Name* to

    .\localmgr

    Note the dot and the direction of the slash character.

- Provide your administrator (**localmgr**) password.

For first-year students, your *localmgr* password is **ChangeMe1!** when you get your laptop. You should have then changed your *localmgr* password to something more secure, using instructions like those below that came with your laptop. If you have forgotten your *localmgr* password (or did not change it from its default before the default expired), **contact EIT for help resetting your *localmgr* password**.

If you fail to use *localmgr* and its password when you install the software herein, things may appear to work, but you may have troubles at a later point. Best to avoid them by doing the right thing now.
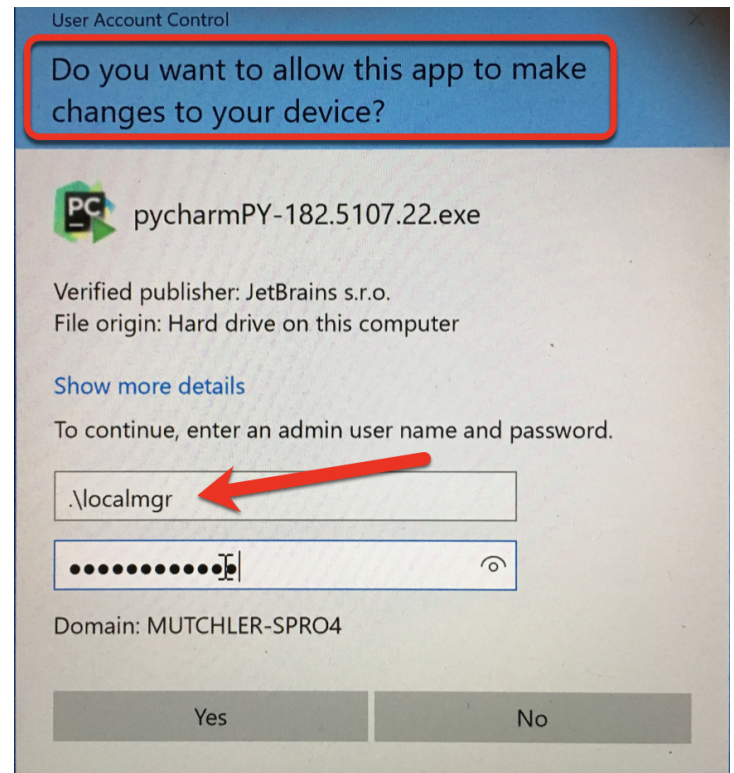
Laptop Setup Guide

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Local Administrator

➢ All laptops come with a default Local Administrator account (.\localmgr) used for installing software and other administrative tasks.
  ➢ **For your security you should immediately change the default local manager password.**

➢ Sign in to your localmgr account by going to the start menu and click on the account Icon and select "Switch user". '
➢ On the next screen, click other user at the bottom left corner.
➢ Next type '.\localmgr' for the username and 'ChangeMe1!' For the password
➢ Once logged in, Press Ctrl+Alt+Delete, select Change Password
➢ The username will be automatically filled in
➢ In the "Old Password" field, enter 'ChangeMe1!' as the password
➢ In the "New Password" field, enter your new localmgr account password
➢ Enter your localmgr account password in the next field for verification, then click "OK"
➢ When the "Your Password has been changed" dialog comes up, click "OK"

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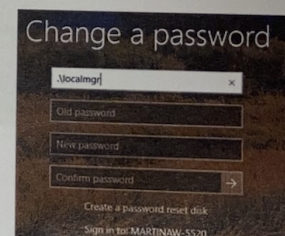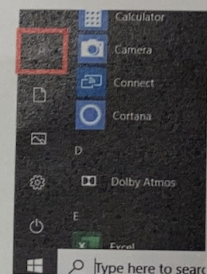
Part 1: Installing Python

Python is the *programming language* in which we will write our programs. To install Python, you will install the *Python interpreter* that executes (runs) your programs, as follows:

**Step #1 (of installing Python): Visit (click on the link):[1]**

   https://www.python.org/ftp/python/3.12.0/python-3.12.0-amd64.exe

to *Save* the file to your computer. (If you are using Chrome as your browser, it will appear at the bottom of the window. In any case, it has probably been saved in your *Downloads* folder.)

Step #2 (of installing Python): Double-click the downloaded file to run the installer, being careful to *follow these instructions:*

Step #2a: At the *initial installation window*, as shown below (throughout, *pictures may show older versions; always install the most current version, per the instructions*):

- *Check the box* for **"Add Python 3.12 to PATH"** (so both boxes on that page should end up checked).

- Then select **"Customize installation."**
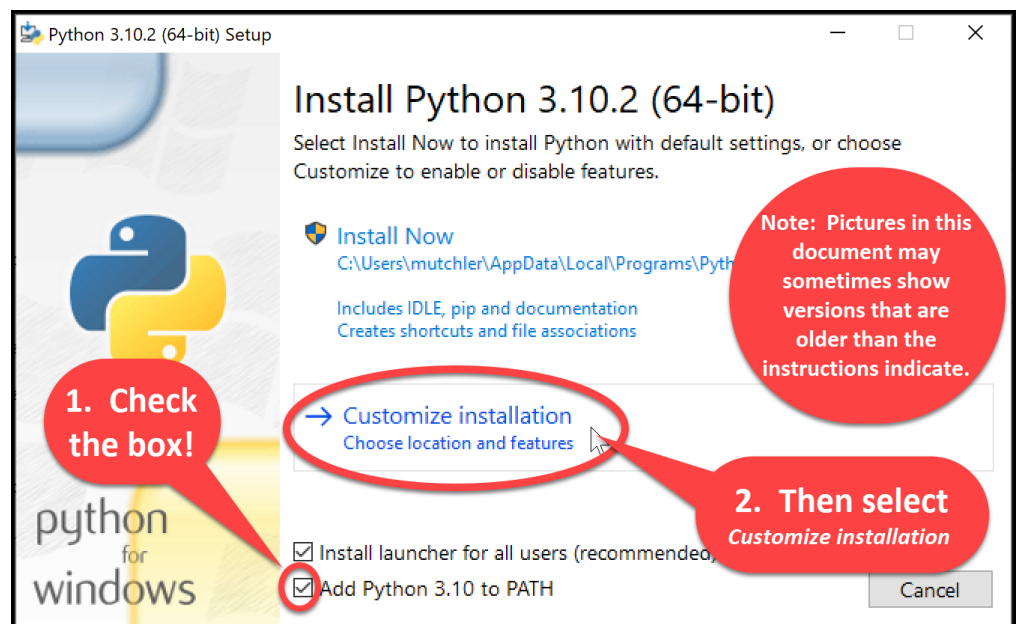
**Do NOT continue past this point until you have turned to the next page (where these instructions continue).**

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[1] Note: If you are using a Mac or Linux computer, instead use whatever is relevant for you at https://www.python.org/downloads/.

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**Step #2b:** On the window that appears next, ***all boxes should be checked***.
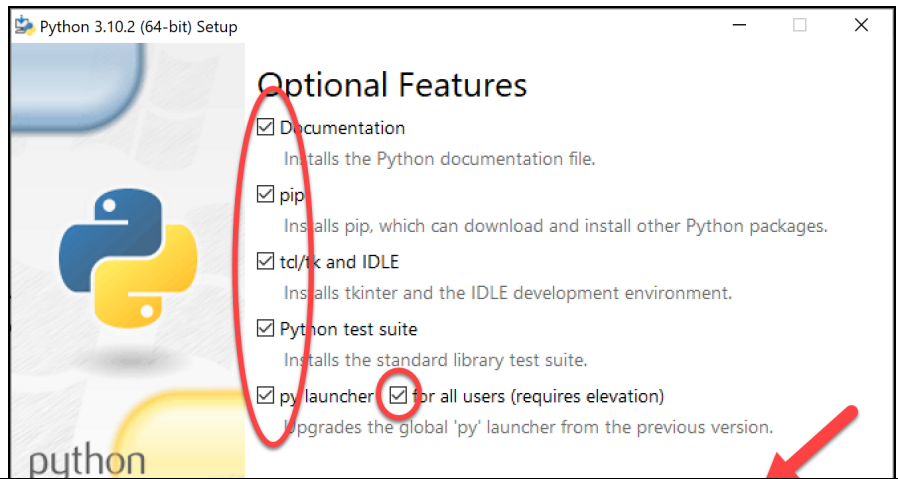
Step #2c: On the window that appears after that:

- ***Check the box*** for **"Install for all users."**

- **Leave the** ***Customize install location* as it is** AFTER checking the box. If yours is different, something has gone wrong.
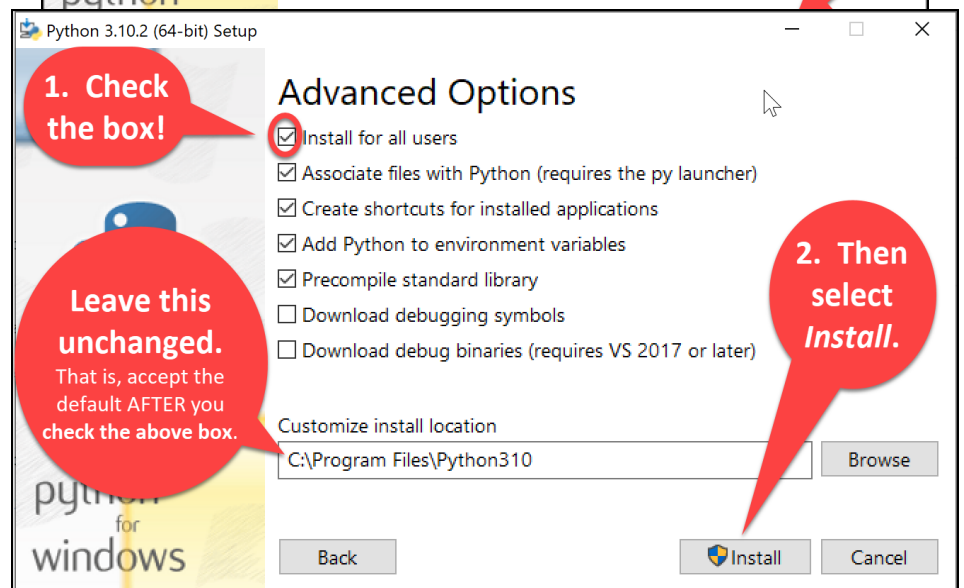
- Click ***Install*** and let the installation continue. Your computer will probably ask you for your admin (i.e., `.\localmgr`) username and password. The installation takes a few minutes on most modern computers.

Step #2d: At the end, select ***Close***.
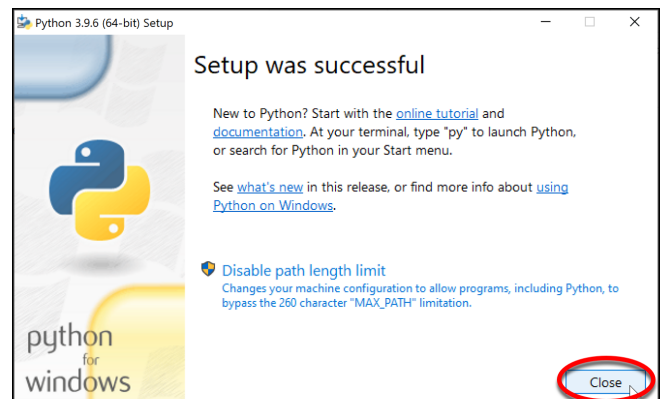
Part 2: Installing Git

Professional software engineers use a workflow (i.e., a way to do their work) that includes using a **Version Code System** (**VCS**). We will use one called **Git** -- the current industry standard.

Git allows software engineering teams to collaborate; it provides ways for each software engineer to work on parts of the software without fear of harming other team members' work, and it helps in the process of integrating a software engineer's code into the production version of the code when the time is ripe.

That said, we will use **Git** mostly to provide simple ways to:

1. **Get *starting code*** for each project ***from*** the "cloud" (in **GitHub Classroom**, where we will put that starting code) ***to*** your computer (where you will augment that code).

2. **Send YOUR code** (as you are working on it) ***from*** your computer ***to*** the place in the "cloud" (GitHub Classroom) from where it came.

3. Do ***pair programming*** with code that you share with a classmate.

Here the "cloud" simply means a computer that is always running and that allows both you and us to get and store information on it. By storing your code "in the cloud":

● Your code is automatically backed up, and

● You can collaborate with others on shared code.

Step #1 (of installing Git):

**Visit, in a new tab[2]**

  https://git-scm.com/download/win

to download a Windows installer for Git.

Then click on the *64-bit Git for Windows Setup* link on the page, as shown to the right.

After it downloads, carefully **check the download** to be sure that it is the **64 (not 32)** bit version.
Warning: Do NOT click on the *downloaded* file yet!
**See instructions on the next page before opening/running the download!**
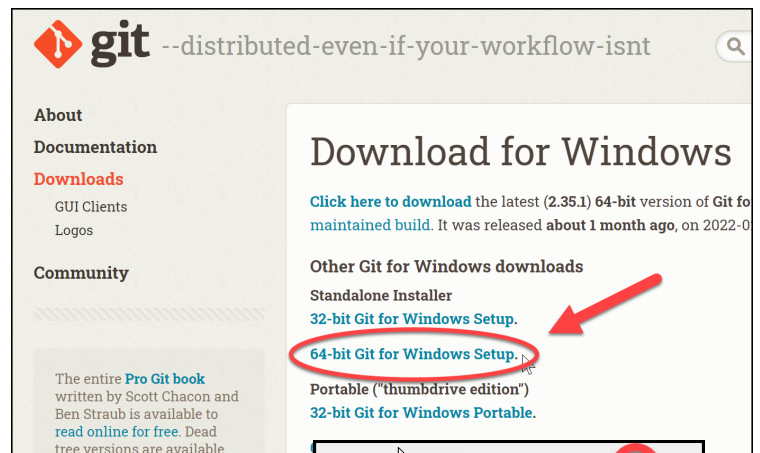
[2] Open this and all other links in this document in a new tab, using whatever works for your browser -- for me, that meant holding down the Control (Ctrl) key and then clicking on the link.

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Step #2 (of installing Git): Once downloaded, *do NOT simply double-click on it*. *Instead:*

Use your file-explorer tool (as shown above) to *locate the downloaded file* in your **Downloads** folder (as shown to the right).

Then *right-click* on the downloaded file, and select *Run as administrator*, as shown below:

1. RIGHT-click on the *Git* file.

2. Then select *Run as administrator* in the pop-up menu
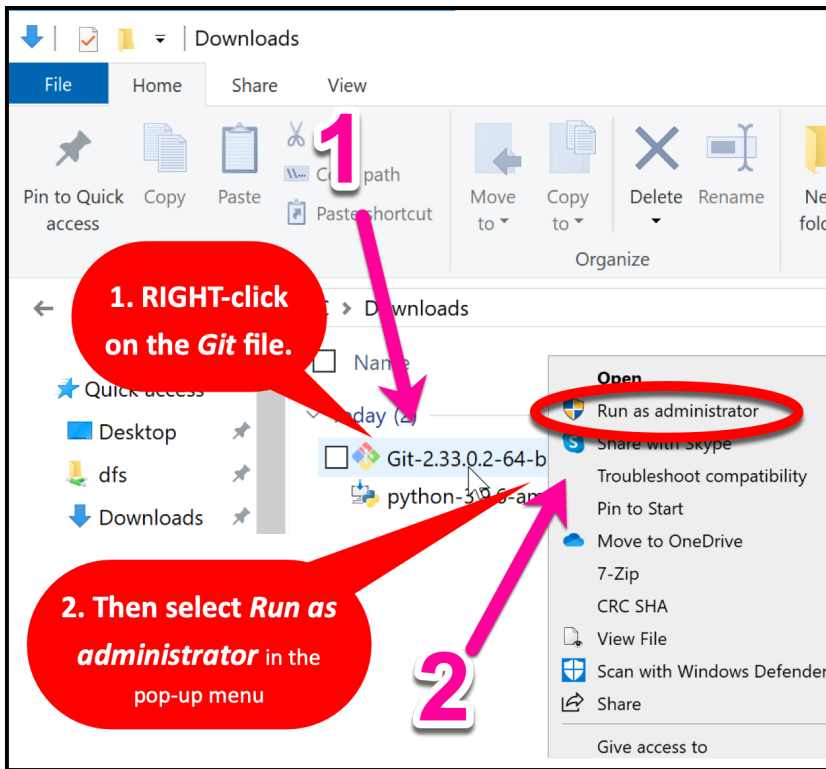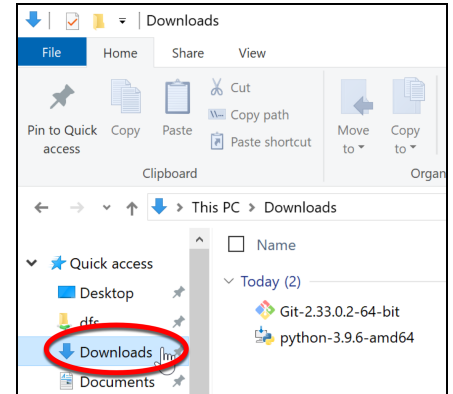
If you lack a *Run as administrator* option, just double-click to open the file and continue from there; the installation will still work, it just puts Git into an unusual, difficult-to-find place if you don't *Run as administrator*.

Selecting the *Run as administrator* option will start the Windows Setup for 64-bit Git.

Accept all defaults during the installation (just keep pressing *Next*, *Next*, *Next* …) **Especially do *NOT* change the folder where Git is to be installed -- it should be:**

    C:\Program Files\Git

as shown to the right. (If it shows some crazy-looking folder, then you are not successfully running the installation as Administrator. In that case, *Cancel* and try again by *right-clicking* on the installation file and selecting *Run as administrator*. If you can't get that to work, continue but accept the crazy-looking folder that the Git installation chooses.)

If it indicates that that folder already exists and asks whether you want to install to that folder anyway, select *Yes*.
*The instructions for this step continue on the next page.*
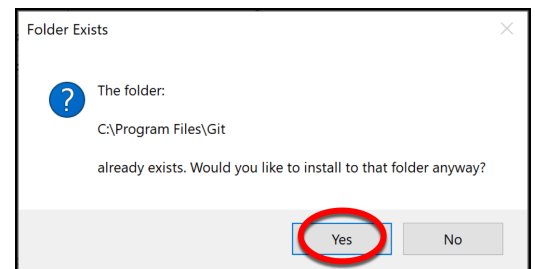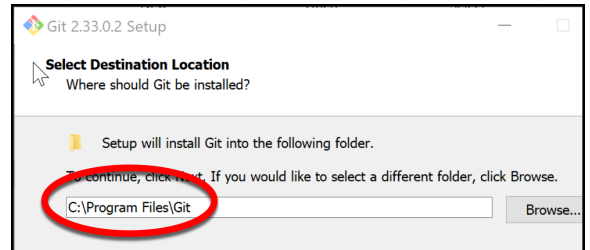
To repeat: **Accept all defaults** during the installation (just keep pressing *Next, Next, Next* …)

Eventually you will get to a screen that has an *Install* button (as in the picture to the right). Press *Install* to begin the actual installation (which will take a minute or so).
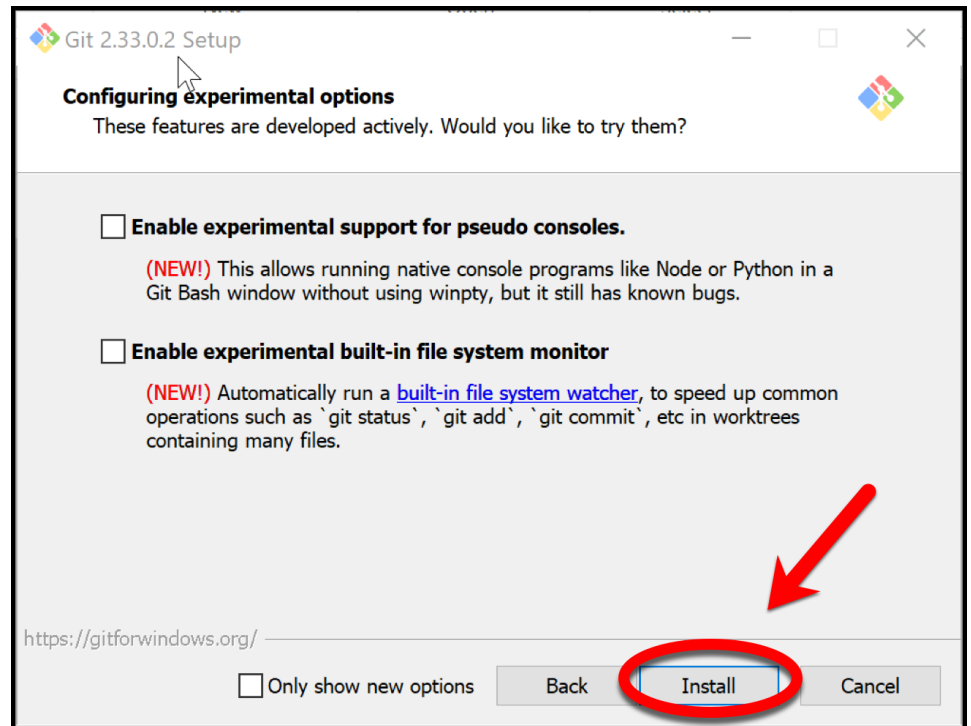
The installation is done when it reaches the page shown to the right.

Uncheck the "*View Release Notes*" checkbox on the final step since you don't need to read those, and click *Finish.*
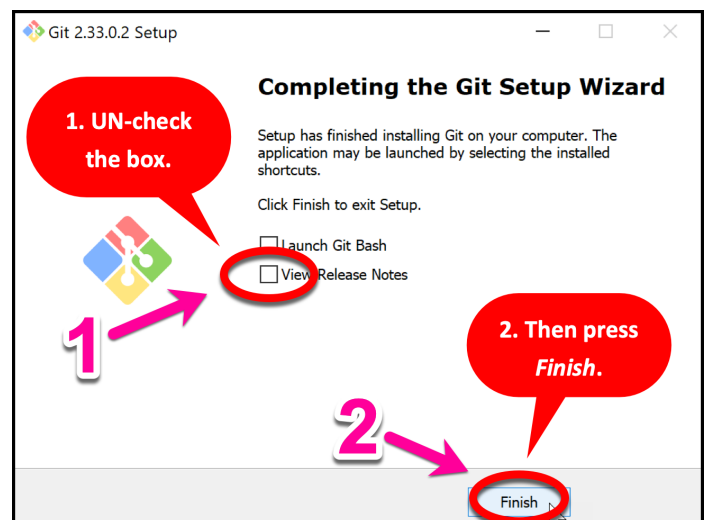
Part 3: Installing PyCharm Professional

PyCharm Professional is an ***IDE*** (**Integrated Development Environment)**. We will use it to write and run our programs. JetBrains is the company that makes PyCharm Professional. They provide their software free to students and faculty, requiring only that you renew the (free) license once a year until you graduate.

You will do the following steps, ***per instructions on the following pages***.

1. **Create a JetBrains account** and apply for a free educational license.

2. **Activate** your educational license.

3. **Download and install PyCharm Professional.**

Warning before you start

Step #1 (and perhaps #2) requires an email confirmation. **For all email confirmations use your @rose-hulman.edu   email** (even if you have other email accounts). When you complete a step in which JetBrains sends you an email, it should arrive within 1 minute. (Check your junk/spam folders if it does not.). To do a confirmation, just click the link that you will see in the email.

Step #1 (of installing PyCharm Professional): **Create a JetBrains account and apply for a free Educational License,** as follows:

Visit, in a new tab:

  https://www.jetbrains.com/student/

Scroll down the page and click on the ***Apply Now*** button that is about halfway down that page. (There is another ***Apply Now*** button higher on the page that might or might not be covered up by the "we use cookies" warning. Either button is fine.)

After pressing Apply Now, do NOT continue until you turn to the next page, where these instructions continue!

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Fill out the form that appears *using your @rose-hulman.edu email.*

JetBrains Products for Learning

Before you apply, please read the Educational Subscription Terms and FAQ.

Apply with:	**University email address** ISIC/ITIC membership Official document
Status:	⦿ I'm a student
	○ I'm a teacher
Level of study:	Undergraduate ▾
	Is Computer Science or Engineering your major field of study?
	⦿ Yes
	○ No
Graduation date:	Choose
	Choose expected graduation date.
Email address:	University email address, e.g. js@mit.edu
	I certify that the university email address provided above is valid and belongs to me.
Name:	Your **real name** as it appears in your passport, driver's license, or other legal documents.
	First Name Last Name

At the bottom of the form, **check the box that indicates that you accept the JetBrain Account Agreement**, as shown below. **Leave the box below it UN-checked** unless you want JetBrains to email you product information (ads).

☐ I am under 13 years old

☑ I have read and I accept the JetBrains Account Agreement

☐ I consent to the use of my name, email address, and location data in email communication concerning JetBrains products held services used by me or my organization.   More

Finally, press the *Apply For Free Products* button. You should then see a page that indicates that JetBrains has sent a confirmation email to you:

APPLY FOR FREE PRODUCTS

By submitting this form, I agree that my name, email address, and location data may be used by JetBrains to send me newsletters concerning the products held or services

JetBrains Products for Learning

Thank you!

Please follow the instructions in the verification email we've sent you to david.mutchler@rose-hulman.edu. You can link JetBrains Educational Pack to another email address later.

Check your email for a message from JetBrains (confirmation #1). It should arrive within a minute; if not, check your Junk/Spam folders.

Click on the link in the email, as shown to the right.

After clicking on the link, do NOT continue until you turn to the next page, where these instructions continue!

JetBrains Educational Pack confirmation

JA   ○ JetBrains Account <no_reply@jetbrains.com>
To: ⊗ Mutchler, David

[External Sender]

Hi,

You're receiving this email because your email address was used to register or update a JetBrains Educational Pack.

Please click this link to proceed:
https://www.jetbrains.com/shop/eform/students/request?code=huh3f1tec1cd1reslg2q6pyp

After accepting the License Agreement, you will be asked to sign up for a JetBrains Account. You will need to use this account whenever you want to access JetBrains tools.

If you have any questions, please email us – we're always happy to help.

Kind Regards,
The JetBrains team
www.jetbrains.com
The Drive to Develop

This email originated from outside of Rose-Hulman. Do not click links or open attachments unless you recognize the sender and k safe.

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Step #2 (of installing PyCharm Professional): Activate your educational license

Clicking on the link in the *first* email that JetBrains sent you brings you to a page asking you to accept their license, as shown to the right. After accepting the license, it will indicate that you have been approved (yay!) and bring you to a page to register with JetBrains.
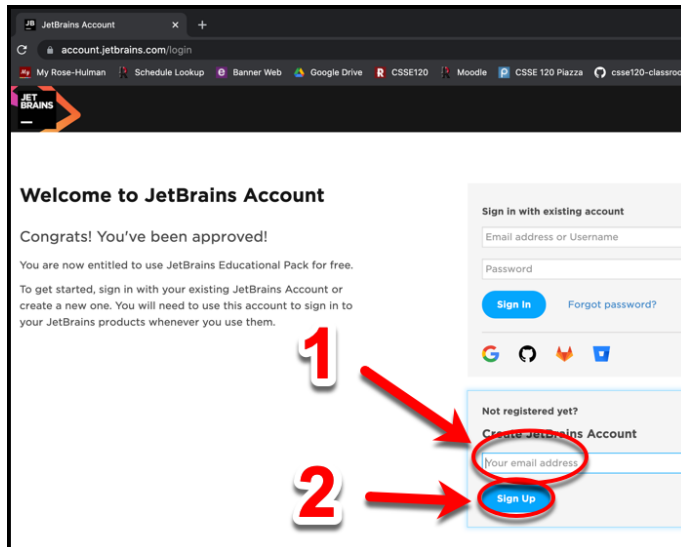

On that page, enter your **@rose-hulman** email account under the ***Not registered yet*** section, as shown to the left. Then press the ***Sign Up*** button.

Now, you should be on the *Welcome to Jet Brains Account* registration page, as shown to the right. Complete the form on that page. (It asks for your graduation date; FWIW, for many of you that will be May 23, 2025, not that it matters to JetBrains.) Choose a password and accept the JetBrains Privacy Policy, as shown above. **Remember your password** since you will need it later!

After you press the ***Submit*** button on the ***Welcome to JetBrains Account*** registration page, you will have a JetBrains account, as shown to the right! (You will also get another email, that does not require any action on your part.)

You are finished with this step only when you see a license, like the one shown to the right. If the above process did ***not*** get you to a page like the one shown to the right, you aren't done yet. :) In that case, visit https://account.jetbrains.com/licenses and proceed from there.
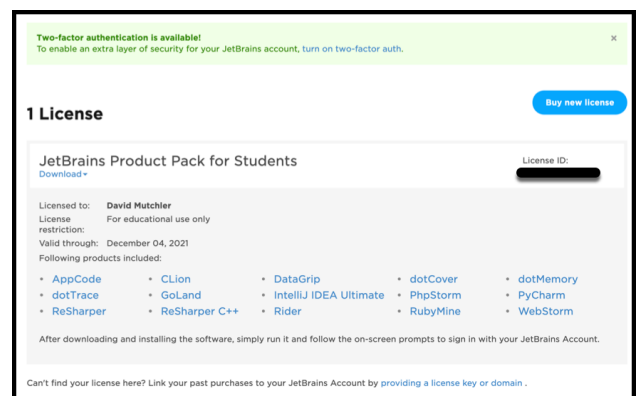
Step #3 (of installing PyCharm Professional): **Download and install PyCharm Professional**, as follows.

You now have an account and a free Educational License. Next, you need to download PyCharm Professional to your computer. Visit this link to get to the Download page:

https://www.jetbrains.com/pycharm/download/

At the Download page, **click the *Download* button** that is below the **Professional** version of PyCharm to download the PyCharm installer.

While it is downloading, you may get an offer to receive emails from JetBrains; you do not need to do anything with that page.
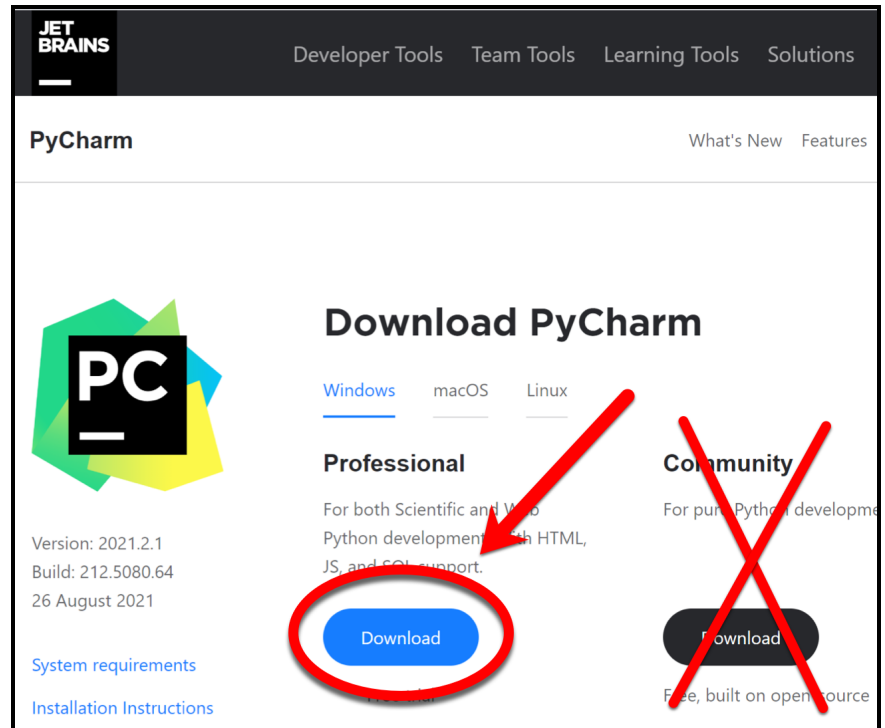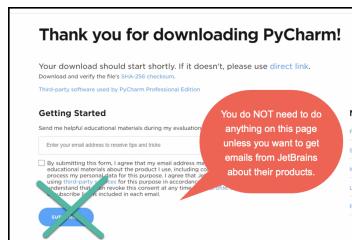
After downloading the Professional version, **click on the downloaded file to run the installer, but do NOT do the install yet. That is, do NOT press *Next* yet:** wait for these instructions to continue on the next page!

Note: At some point, the installation may ask you to enter your username/email and password for the *PyCharm License Activation* (as shown below and to the right). Do so when asked, using your Rose-Hulman email address and ***JetBrains*** password for the account that you created in the previous step. **But again: do NOT press *Next* yet:** wait for these instructions to continue on the next page!

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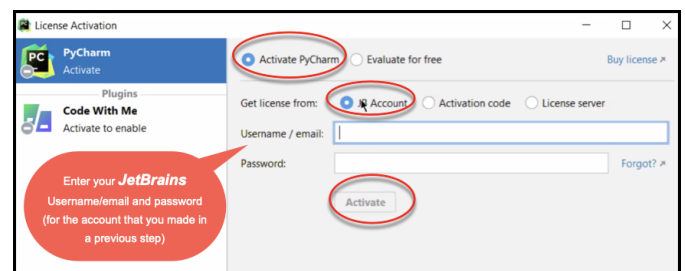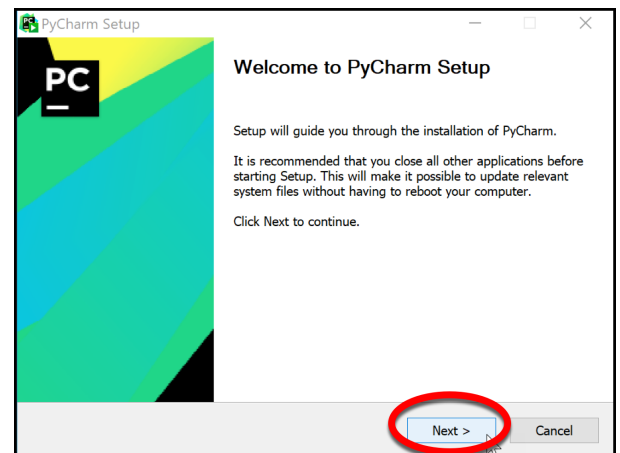
Accept all defaults during the installation, **except**:

If you are offered the option of deleting an older version of PyCharm, do so or not as you choose.
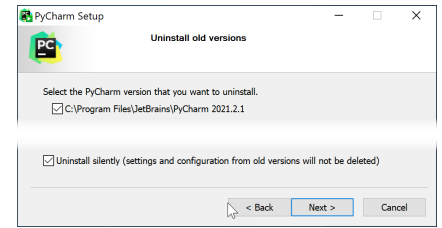
At the *Installation Options* page (shown to the right), do as you wish. I chose to have a Desktop Shortcut and to arrange for PyCharm to be what opens by default when I open a .py file (which is the suffix that Python files use).
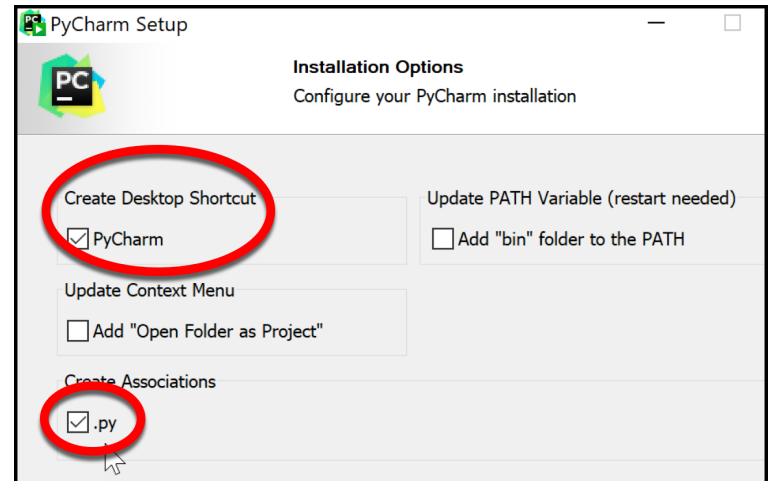
At the *Choose Start Menu Folder* page (shown to the right), do as you wish, but I chose to change *JetBrains* to *PyCharm* (to make it easier for me to find PyCharm later).

In any case, press *Install* when you reach the window with that option. The installation takes a minute or two on most modern computers.

At the final page of the PyCharm installation, leave the box UN-checked and click on the *Finish* button.
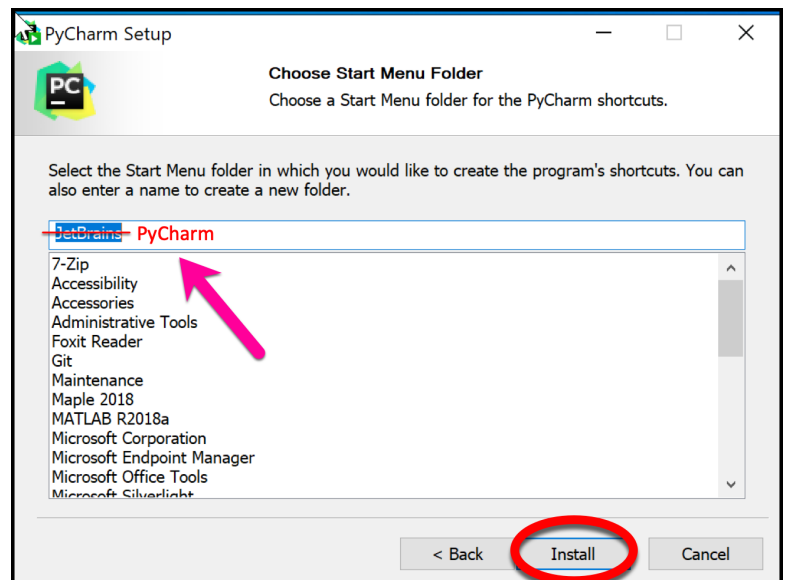
You may be asked to reboot your computer to continue the installation; do so if asked.

If you accidentally open PyCharm, do not proceed past the first screen that appears. (If you accidentally do proceed past the first screen, use
```
File ~ Close Project
```
to get back to that first screen.)

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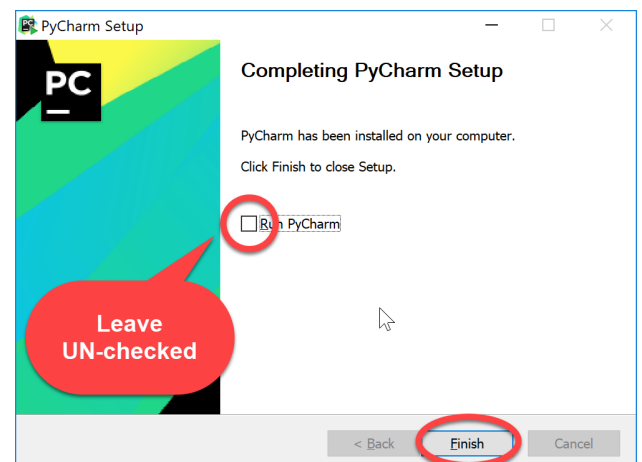
Part 4: Setting up the Python *Interpreter* in PyCharm

You should have already done the following, per the previous instructions in this document:

1. Part 1: Install **Python**
2. Part 2: Install **Git**
3. Part 3: Install **PyCharm Professional**

If you have not already done the above, do so now by finding the relevant section(s) in the previous pages of this document.

In this step, you will open PyCharm Professional and set it up to use your previously-installed Python interpreter and libraries that it needs for our work with robots and/or other things.

Step #1 (of setting up the Python Interpreter in PyCharm):

Start PyCharm, as follows:

- **Run PyCharm** (use your Search tool as needed to find it).

It may take a minute or so to load the first time, during which you will see the screen shown to the left.

2. Choose the program (app), not the installation instructions.

1. Type the first few letters of PyCharm here.
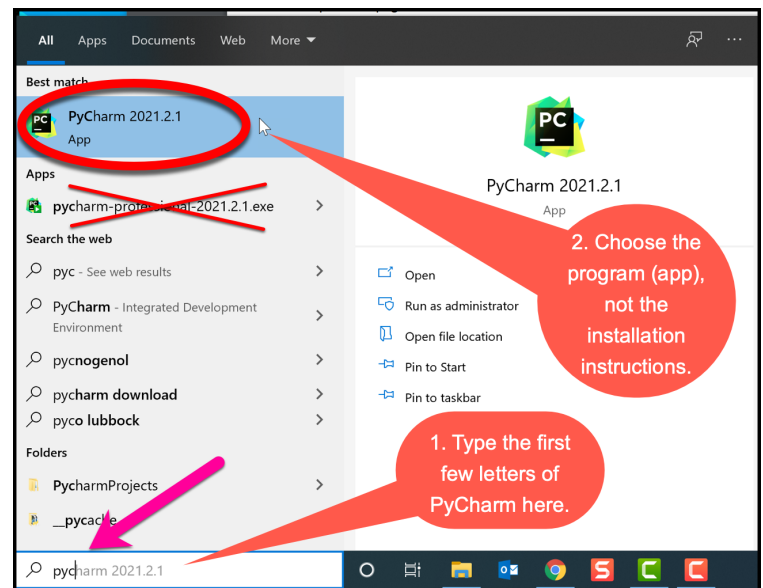
- When PyCharm itself starts up, you may see the dialog shown to the right. If so, check the ***Do not import settings*** box and then press ***OK.***

- **If at any point** you see a *Windows Defender Firewall* dialog like that shown to the right, choose options as you wish (the picture shows my own choices).

The instructions continue on the next page. Do *NOT* continue past the next screen that appears *until you* read them!

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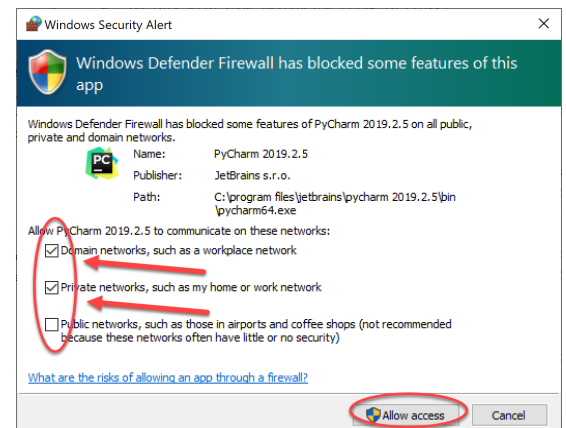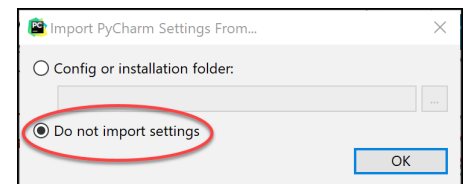
If asked, accept the license and choose whether or not to share your coding behavior with JetBrains (either choice is fine).
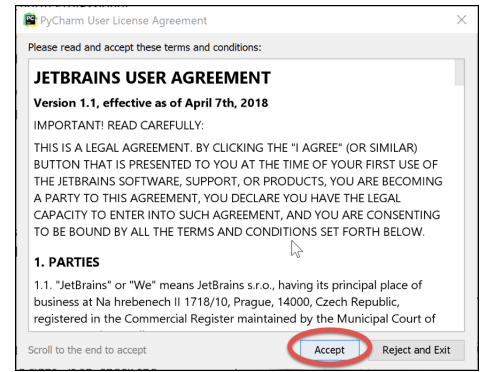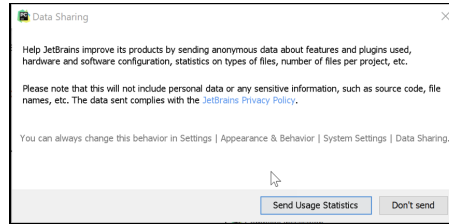
If **at any point** you are asked to *Activate* your license (as shown to the right), enter the email address and password that you chose when you created your *Jetbrains* account, then press the **Activate** button.
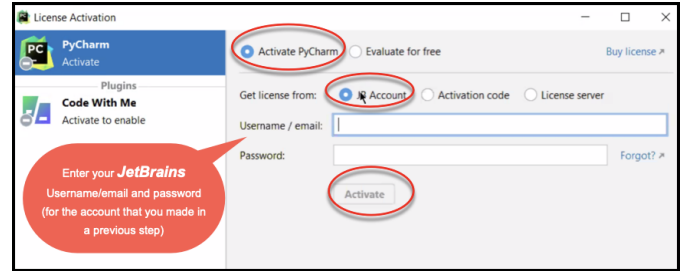
Soon you will see a page like that shown to the right (yours may start in the "dark" theme). While you are welcome to do the "Start Tour", it is not helpful for first-time Python users.
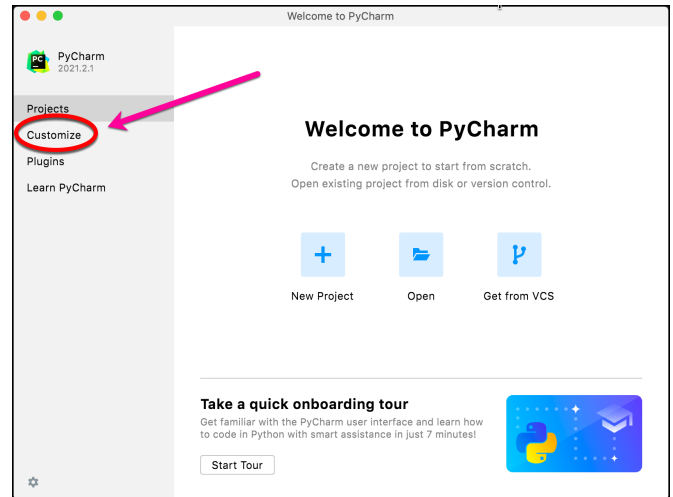
> (If you accidentally proceeded past this first screen, use
> ```
> File ~ Close Project
> ```
> to get back to it.)

Choose the *Customize* option as shown.

On the *Customize* page (as shown to the right), **select each *Color theme* option to see what it is like, then select the one that you like best.** It is easy to change later, so just pick one to try out for now.
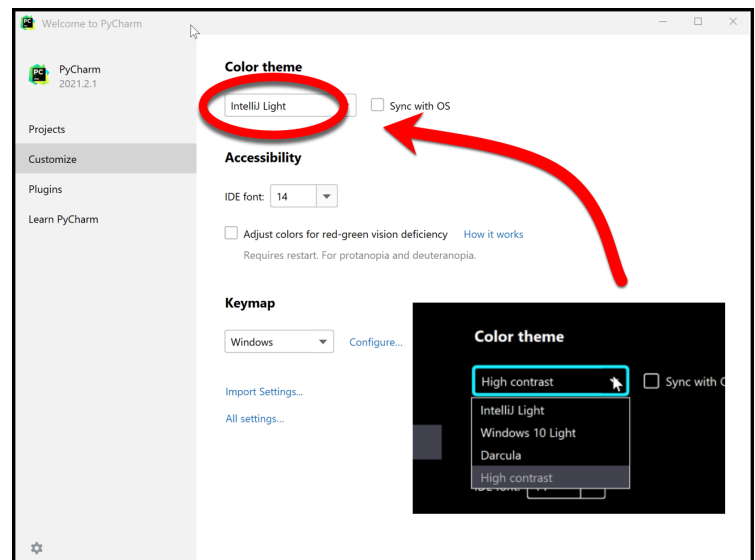
After selecting your Color theme, *do NOT continue until you turn to the next page*, where these instructions continue!

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Step #2 (of setting up the Python Interpreter in PyCharm): **Tell PyCharm the location of your Python Interpreter**, as follows:

After you have chosen the *Color theme* that you want to try out (it is easy to change your mind later), **select All settings** (at the bottom of the page, as shown to the right).
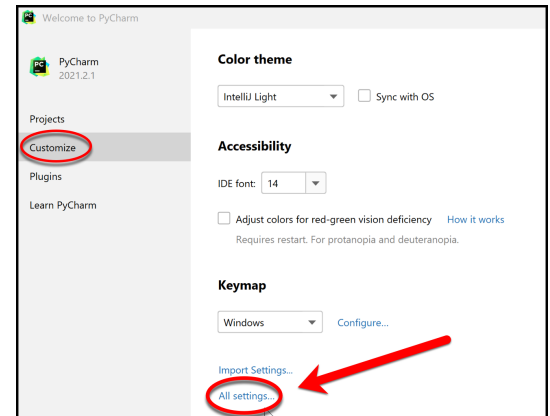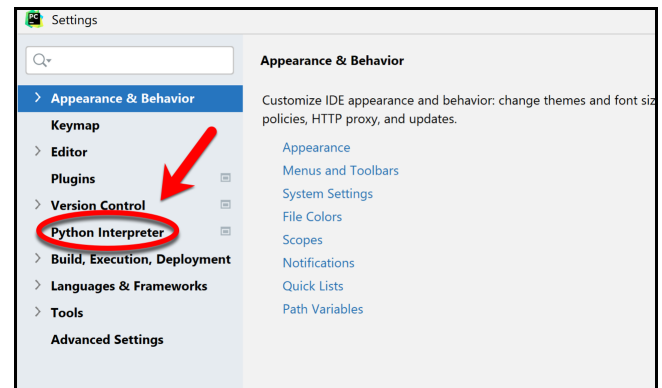
You will then see a *Settings* page, as shown to the right. Except as described in the following, leave the settings in their "out of the box" form for now (and get some experience with PyCharm before changing them).

Select

Python Interpreter

as shown in the picture to the right.

This brings up the *Python Interpreter* pane, as shown to the right.

Click on the little pull-down arrow on the right-hand-side of the *Python Interpreter* text box (circled in **red** with an arrow pointing to it, on the above picture).
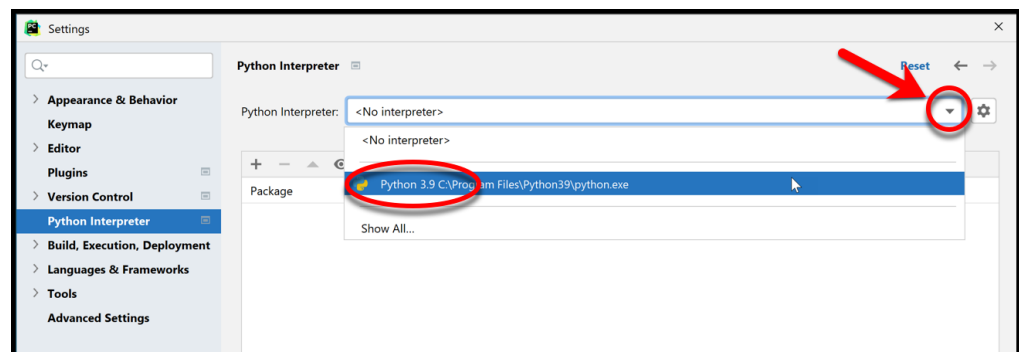
Hopefully the Python 3.12 interpreter pops up, as shown in the picture. If so, select it. The interpreter may take a minute or so to load its files, then you should see a picture like that to the right.
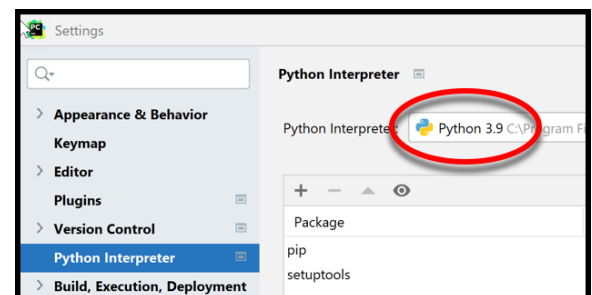
*Make sure that yours shows the **Python 3.12** interpreter (and not an older one).* **If yours shows Python 3.12,** skip ahead to **Step #3 on page 18.** If not, continue to the next page of these instructions.

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To repeat: If your *Python interpreter* pane shows the Python 3.12 interpreter (and not an older one), skip ahead to Step #3 on page 18.

If your *Python interpreter* pane shows *no* interpreter or one older than Python 3.12, then select the tiny **"gear"** symbol to the right of the pull-down symbol, and select **Add...** from the pop-up that appears, as shown below and to the right. (It takes a few seconds to react.)
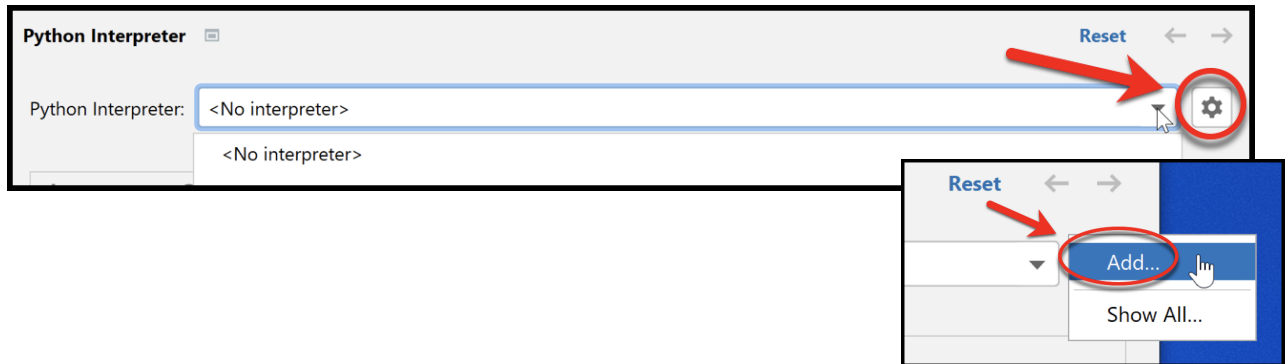

CRITICAL: In the screen that appears then, select **System Interpreter**, as shown to the right. Do NOT use the Virtualenv Environment that is the default option.
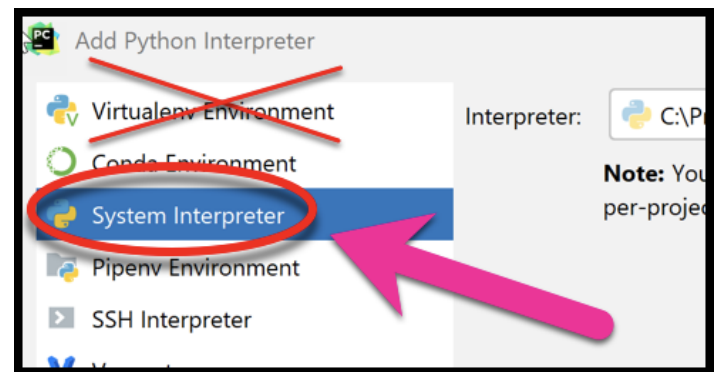
If it now shows a file for Python 3.12, as shown below, click *OK* to exit the Settings dialog and *skip ahead to* page 18. It may take a minute or so for all the Python Interpreter files to load.

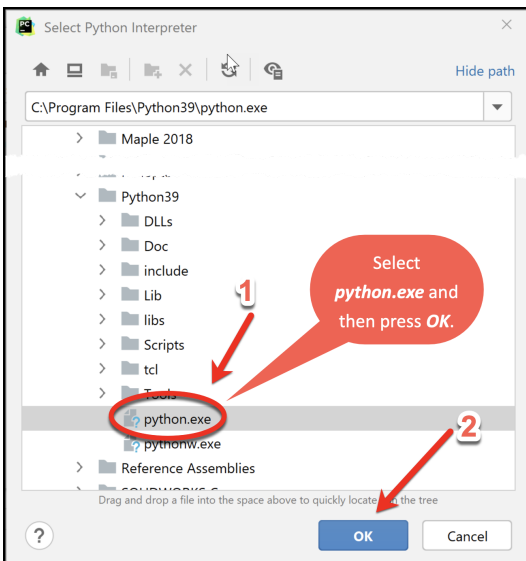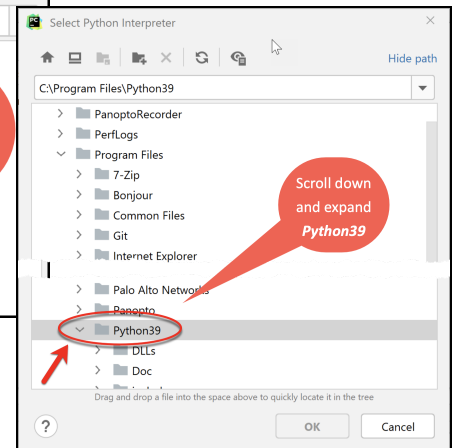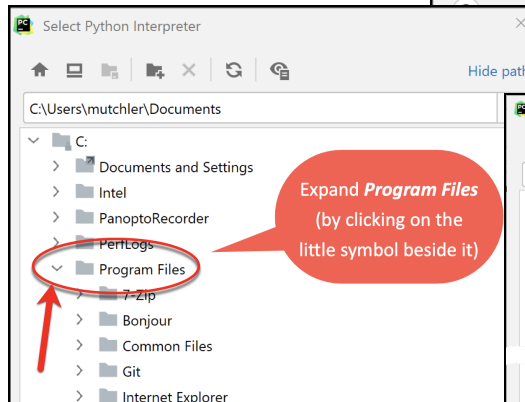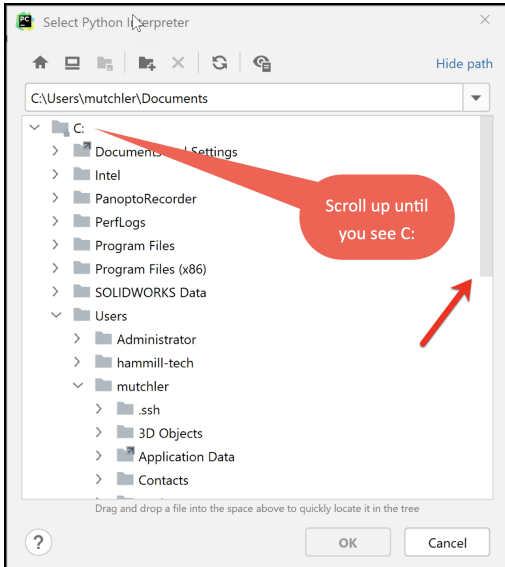**If Python 3.12 *still* has not shown up, continue to the next page of instructions.**

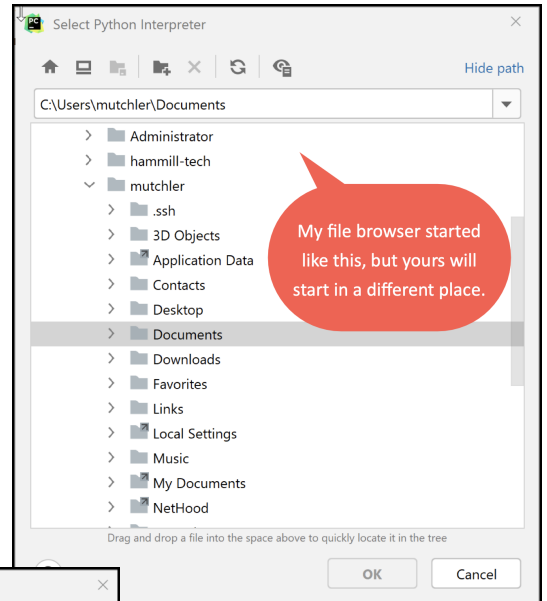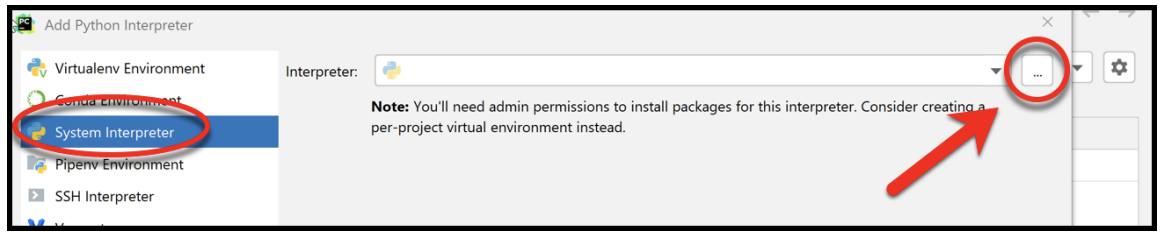

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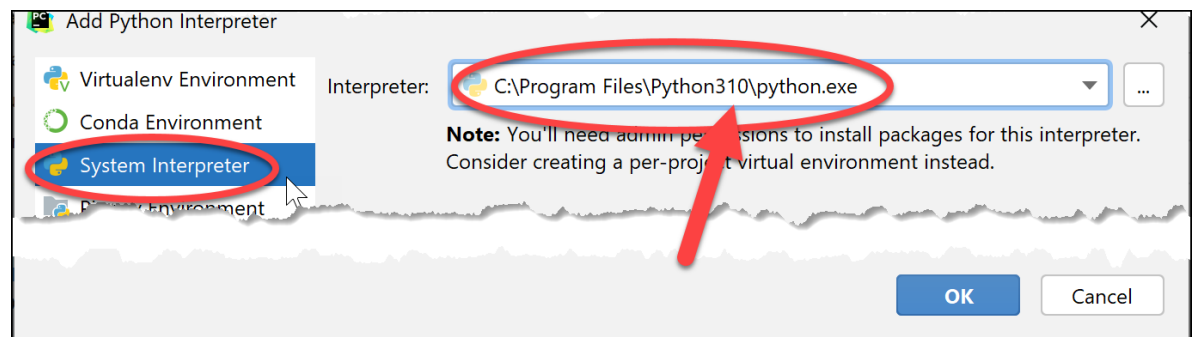
If Python 3.12 *still* has not shown up, click on the three dots to the right of the Interpreter text box, as shown above. Doing so will bring up a file browser, as shown to the right.

Use the file browser to locate and select where you installed Python (per instructions earlier in this document), presumably `C:\Program Files\Python311\python.exe`. The pictures below show the sequence of steps by which I located that ***python.exe*** file on my computer. If using a file browser like this is unfamiliar to you, don't hesitate to seek help (and skip ahead to the next step of the instructions for now).

My file browser started like this, but yours will start in a different place.

Scroll up until you see C:

Expand *Program Files* (by clicking on the little symbol beside it)

Scroll down and expand *Python39*

If you cannot find your ***python.exe*** file for ***Python 3.12*** get help from your instructor as needed (and continue to **Step 5 on page 20** while waiting to reach your instructor). Or, if you want to try something yourself, go back and redo the instructions for installing Python, being sure that you downloaded Python 3.12 and paying close attention to where it was installed, then repeat the above instructions for telling PyCharm where you installed it.

Select *python.exe* and then press *OK*.

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Step #3 (of setting up the Python Interpreter in PyCharm): Add packages (libraries) necessary for our projects, as follows:

At this point, you should have configured PyCharm to know the location of your Python interpreter. (If not, then skip ahead to **Part 5 on page 20** and get help from your instructor later on setting up your Python Interpreter.)

Hopefully you are still on the *Settings* page, as shown to the right. If not, proceed as needed to get there (refer back to pages 13-15 as needed).

**Now click on the + sign**, as shown in the picture to the right.
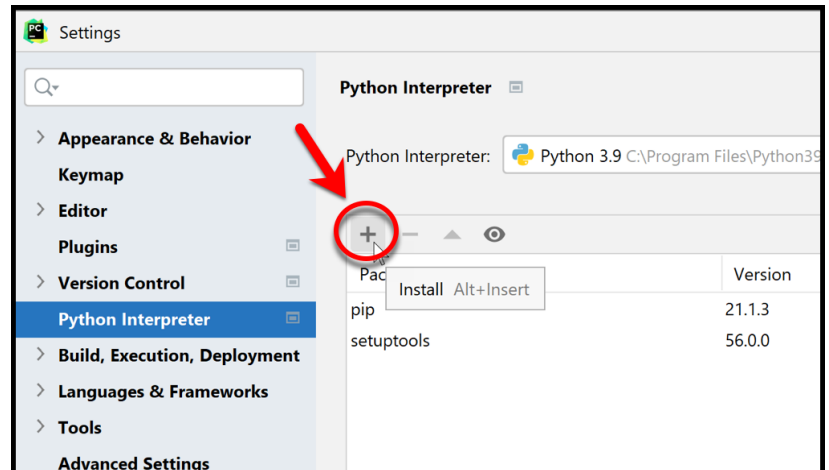
In the ***Available Packages*** pane that appears, type   **pygame**   in the text box, as shown in the picture to the right. Then click on the ***Install Package*** button (leave the checkbox unchecked). After a minute or so, PyCharm will have installed the selected package:

Package 'pygame' installed successfully
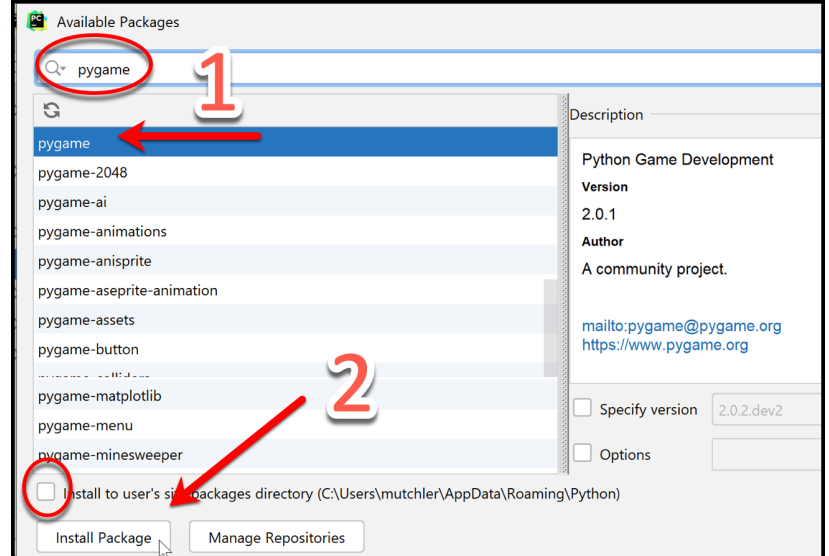
Now **repeat the process**, but this time installing the **paho-mqtt** package, as shown to the right. (Again be sure to have the box near the bottom UN-checked.)

Then **do the process one more time**, but this time installing the **Pillow** package. (Again be sure to have the box near the bottom UN-checked.)

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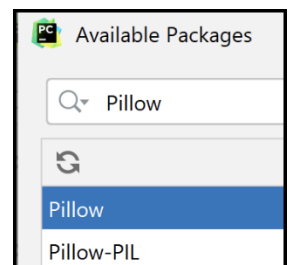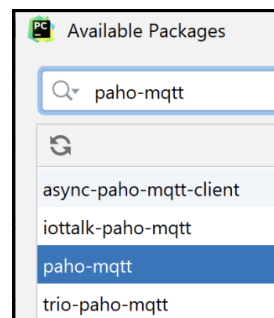
After installing all three packages, **click on the X in the upper-right corner** to exit the *Available Packages* dialog and return to the *Python Interpreter* pane, which should now look as shown below.
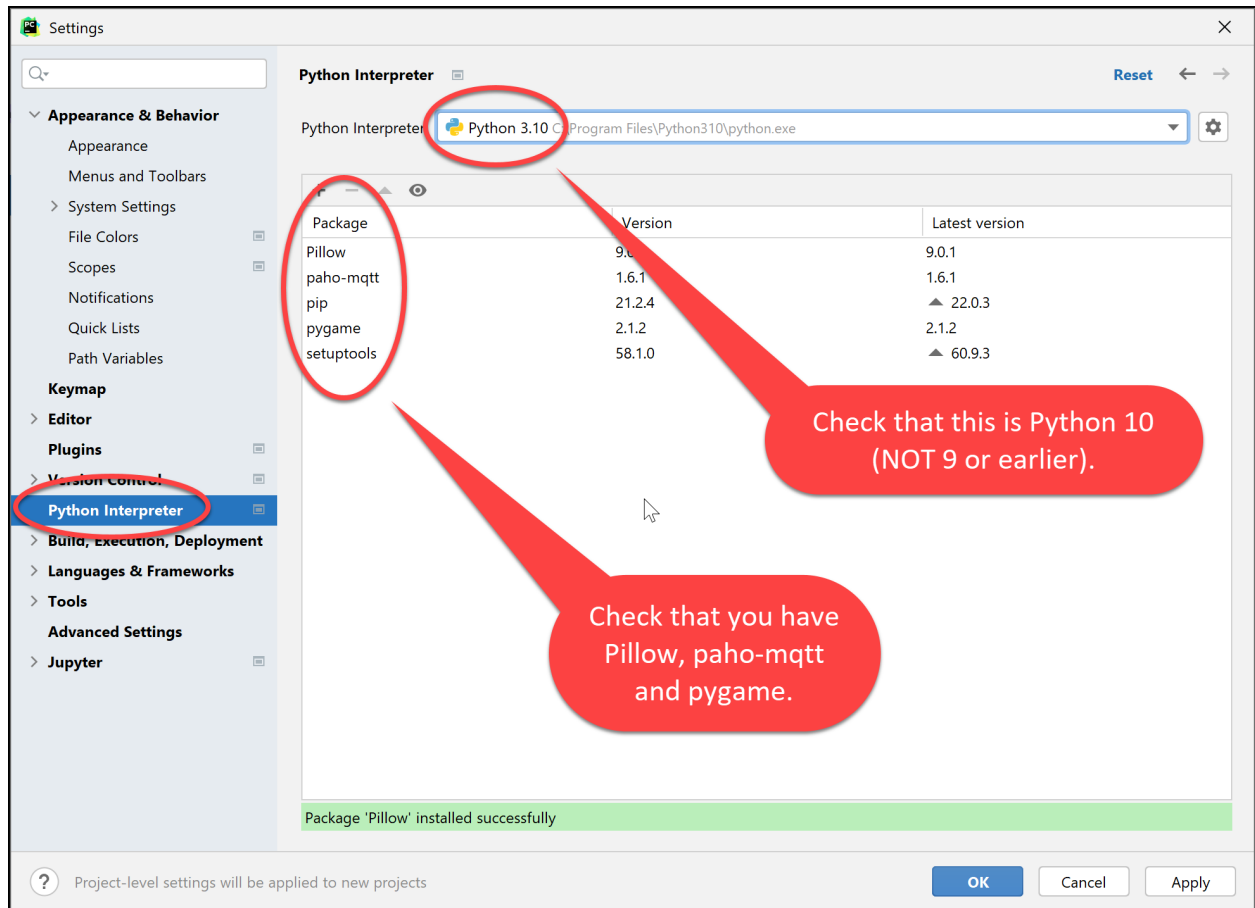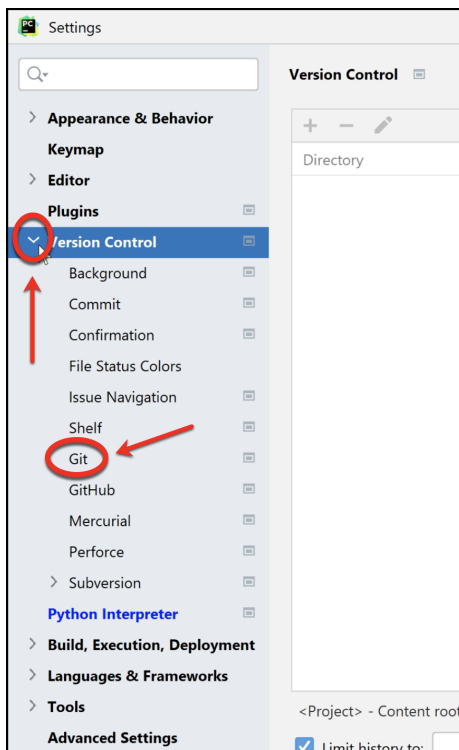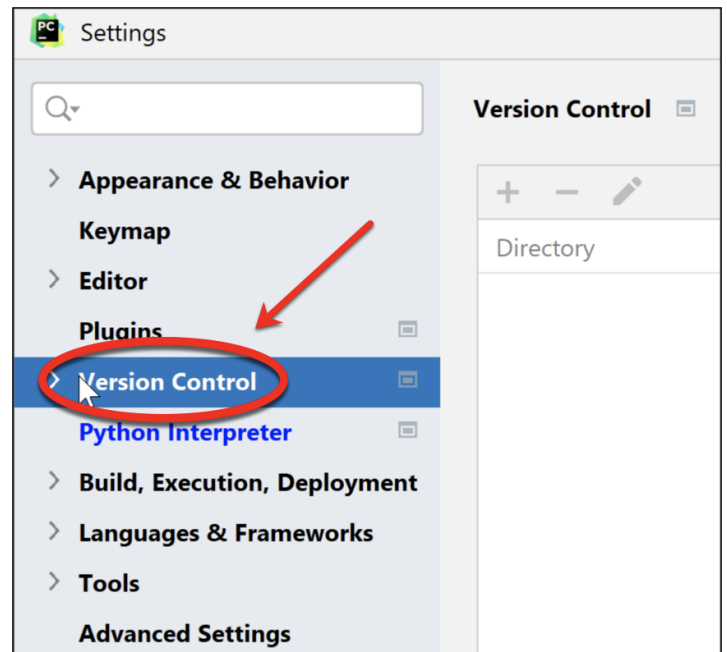

Press *OK* to complete this step.

Part 5: Setting up Git in PyCharm

Set up Git in PyCharm, as follows:

Hopefully you are still on the *Settings* page, as shown to the right. (If not, use *File ~ Close Project* and/or *All Settings*, per pages 13-15.)

Now select *Version Control* from the list on the left-hand-side, as shown in the picture to the right.
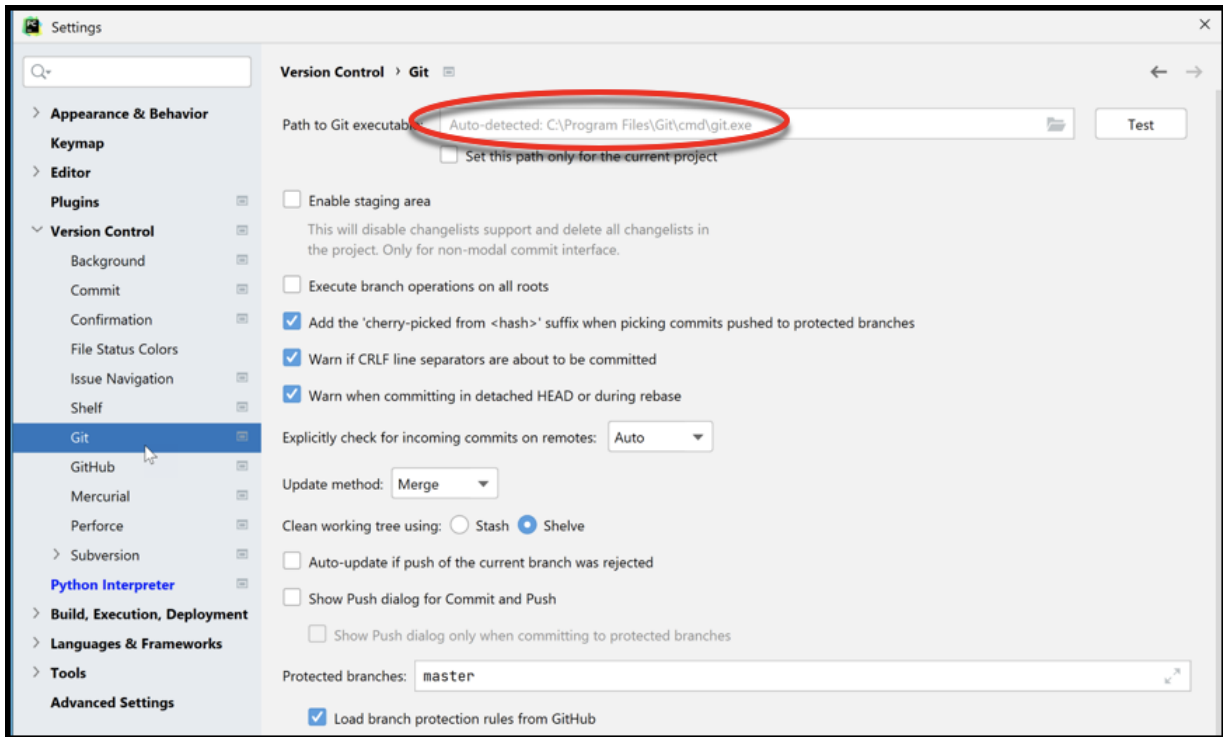
Then ***expand* Version Control** (using the little pull-down symbol), as shown to the left.

From the expanded **Version Control,** select *Git* to get the screen shown below.
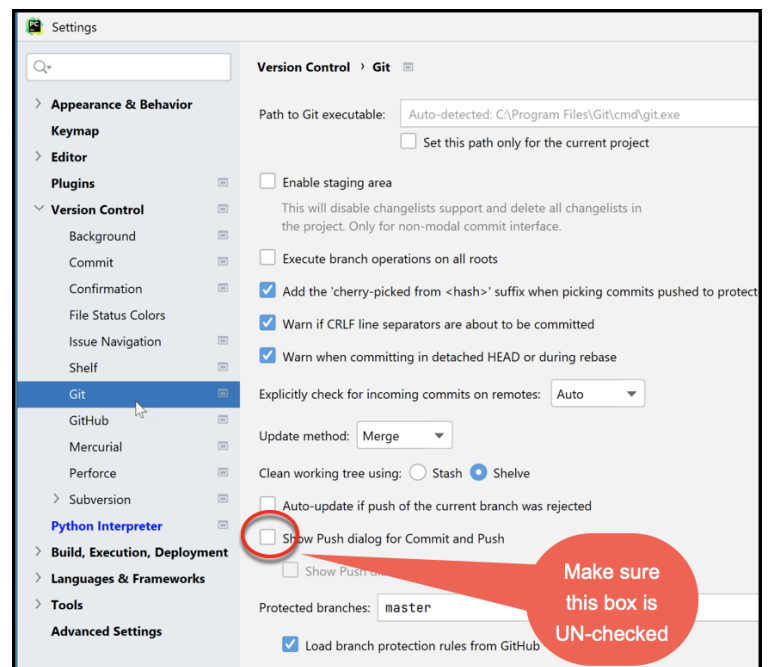
At that screen, UN-check the "Show Push dialog for Commit and Push", if it is not already un-checked, as indicated to the right.

(Instructions continue on the next page.)

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Near the top of the *Git* screen, you will probably see something like the above, where PyCharm has already found your **git.exe** file and put it into the *Path to Git executable* as shown in the above screenshot. (If not, then you may have installed Git into a non-standard place. If that is the case, stop here and get help from your instructor to finish this step.)

If you see the auto-detection as shown in the above picture, press the **Test** button, as shown below. That should cause your version of Git to be displayed on the page, as shown below. (The Git version does not appear until you press the *Test* button, and it is easy to miss the message, so look closely.)
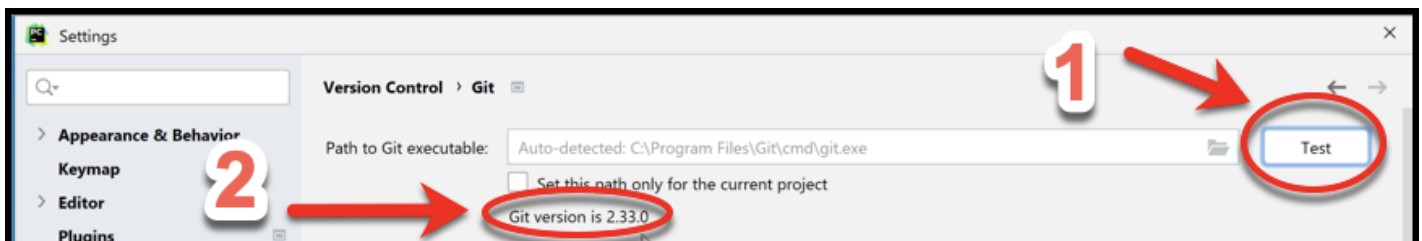
Confirm that your version of Git is at least *2.43.0* (and not 2.33 or 2.35 despite the above pictures). If it is 2.42 or earlier, make sure that you installed the latest version of Git, per the instructions on pages 5 to 7, getting help as needed.

Great work! Once again, if anything went wrong, don't worry, just get help from your instructor or student assistants.

# Part 6: Sign up for a GitHub account and Set up PyCharm for that account

In a previous step, you were asked to install a software called **Git**. You are now asked to use a platform called **GitHub**. With Git and GitHub, you could "back up" your code to the GitHub server whenever you finish a reasonable chunk of code on your machine. This way, you reduce the risk of losing your work, and you open up the possibility of collaborating with people around the world.

Follow the steps below to complete GitHub registration. Everything is similar to any account registration process, except for how to choose the username.

If you already have a GitHub account:

- If it is associated with your ***Rose-Hulman email***, then use your existing account.

- If it is NOT associated with your Rose-Hulman email, then ***create a NEW (second) GitHub account, using your Rose-Hulman email*** and the username naming convention as described in the instructions below.

Step 1. Go to https://github.com/, and click "Sign up" at the top right corner.
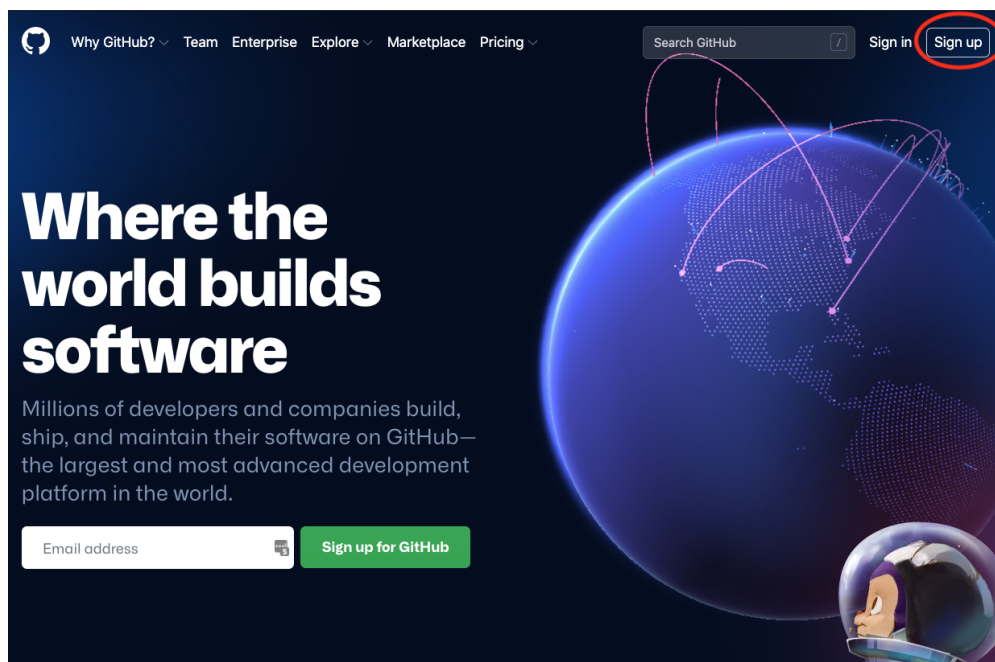
Step 2. <mark>**IMPORTANT:**</mark> Enter your *Rose-Hulman email* and click "Continue". For example, Dr. Yiji Zhang would enter "zhang1@rose-hulman.edu" since *zhang1* is her Rose-Hulman id/username. (Your id/username is the part in front of @rose-hulman in your email.)

Step 3. Create a password and click "Continue". ***Remember your password,*** since you will need it later!

Step 4. Enter a username -- <mark>**IMPORTANT:**</mark> use a name <mark>*exactly*</mark> like

   rhit-roseid

as your username, but where you *use your OWN Rose-Hulman username* instead of *roseid*. For example, for Dr. Yiji Zhang, it would be **rhit-zhang1** since her Rose-Hulman id/username is **zhang1**. Click "Continue".

Step 5. Decide whether you want to receive product updates via email and type either "y" (without the quotation marks) for yes or "n" for no. Then click "Continue".

Step 6. Verify your account as instructed. (You may be asked to solve a puzzle to prove that it is a human that is completing this registration, not a machine.) Finally, click "Create account".

Welcome to GitHub!
Let's begin the adventure

This registration is for Alan M Turing (google to learn more about him if you like).

Enter your email
✓ turingam@rose–hulman.edu

Use your Rose-Hulman email!

Create a password
✓ ••••••••••••••

Enter a username
✓ rhit–turingam

Use the form: rhit-userid for your username!

Would you like to receive product updates and announcements via email?
Type "y" for yes or "n" for no

✓ n

Verify your account

Please solve this puzzle to verify that you are human
Click "Start puzzle" to continue

Step 7. You are taken to a page where it asks you to enter your "launch code". Don't close this webpage. Go ***check your email inbox*** for which you used to create the GitHub account (if you followed all the instructions above, it should be your Rose-Hulman email). You should have received the "launch code". (If you don't see it, check your Junk/Spam folder.) Now, enter the launch code.

Step 8. You should now be taken to the "Welcome to GitHub" page. On this page, it may ask you to enter more information about how you

Welcome to GitHub
We are glad you're here.

How many team members will be working with you?
This will help us guide you to the tools that are best suited for your projects.

| Just me | 2 - 5 | 5 - 10 |
| 10 - 20 | 20 - 50 | 50+ |

Are you a student or teacher?

| Student | Teacher |

Continue

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will be using GitHub and who you are. You can ignore these for now, or answer them as you choose.

Step 9. Return to PyCharm. Hopefully you are still on the *Settings* page, in the *Version Control* section, as shown to the right. (If not, get there via the instructions at the beginning of page 20.)
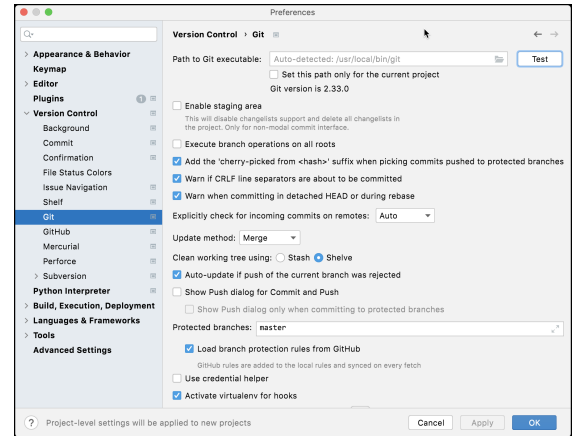
Now select *GitHub* from the list on the left-hand-side, as shown in Step 1 of the picture to the right.

On the window that appears, select the little "***plus***" sign, as shown in Step 2 of the picture to the right.

In the pull-down menu that appears, select *Log in with Token…* as shown in Step 3 of the picture to the right. **(Do NOT select *Log in via GitHub…*)**
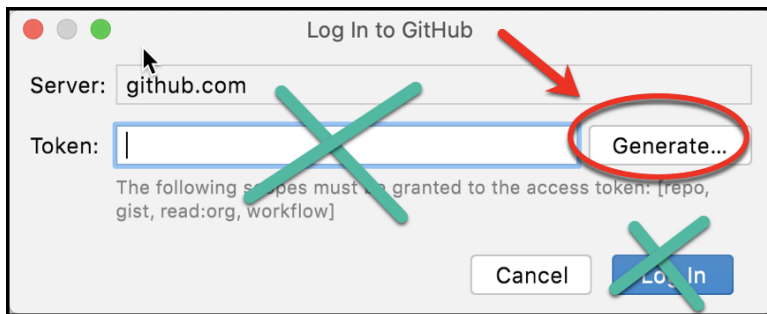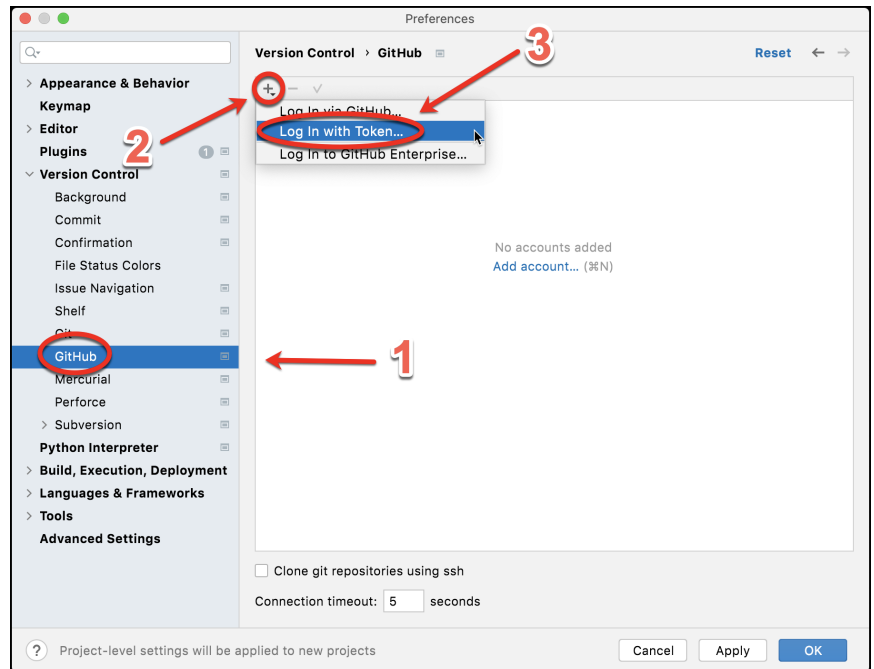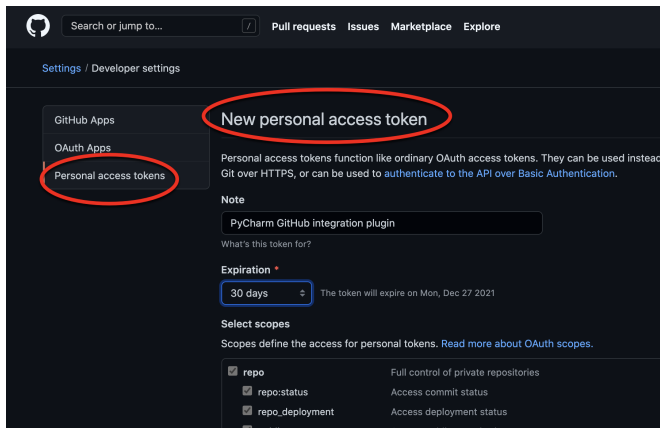
A window like that shown to the left will pop up. Select *Generate* from that window.

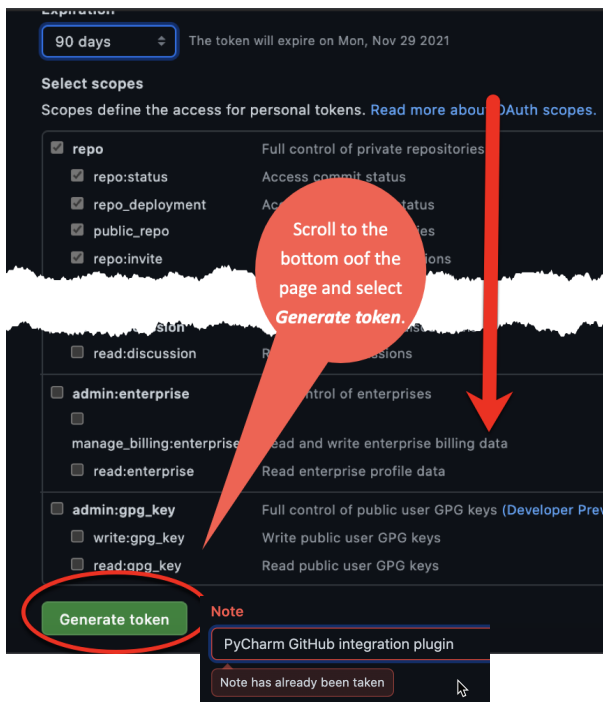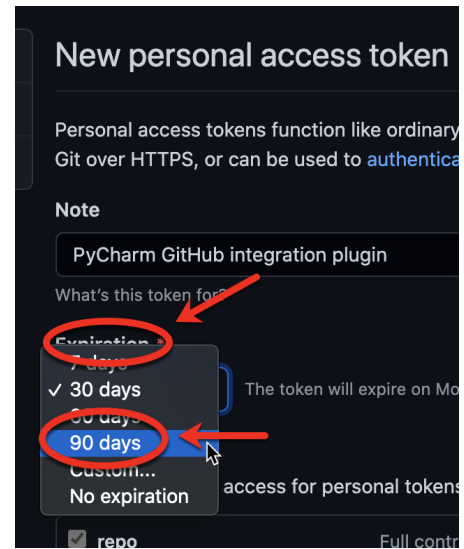If asked, enter the GitHub password you selected earlier in these instructions.

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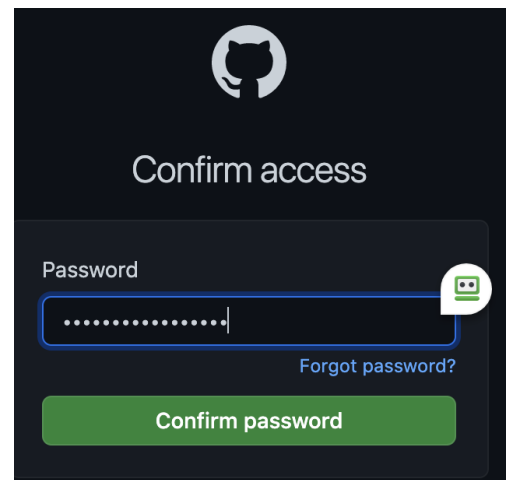
The preceding opens your browser to a page labelled **New personal access token**, as shown to the left.

On that page, select ***Expiration*** and change it from 30 days to ***90 days***, as shown to the right.

Then scroll to the bottom of the page and select ***Generate***, as shown to the left.

(If you now see "Note has already been taken", change the name of the Note slightly; append a 2 or the like, and then do *Generate* in PyCharm again.)

*Instructions continue on the next page.*

You will then see a page like that shown below. The long string of symbols is your "token". Click on the circled symbol. That copies it into your "clipboard". It will briefly say "Copied!" as shown below and to the right. In the next step you will paste that copied token into PyCharm. After that, you will have no need for the token (no need to store it).
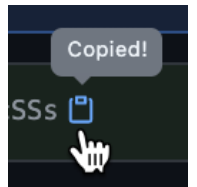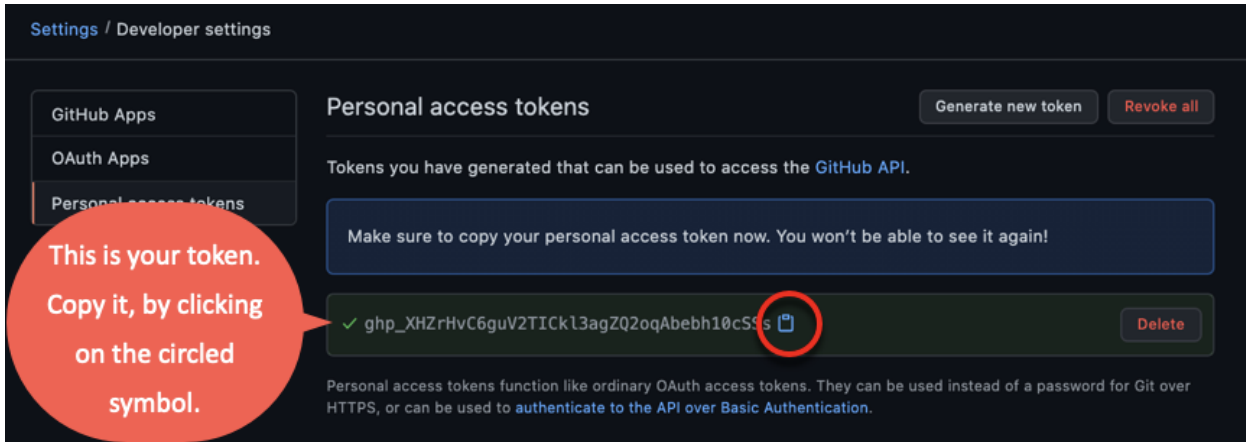
Then return to PyCharm and *paste* the token in the place indicated, as shown to the left. Then select *Add Account*.
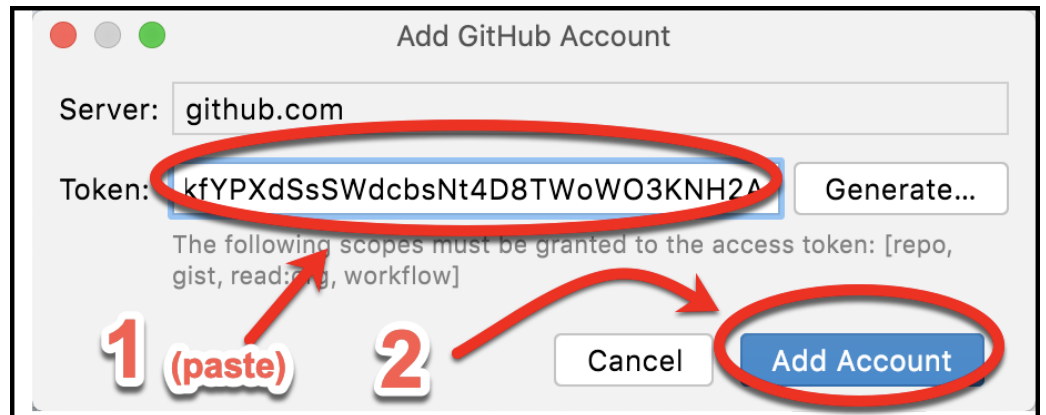
You should end up with something like that shown to the right, but with your own GitHub username.



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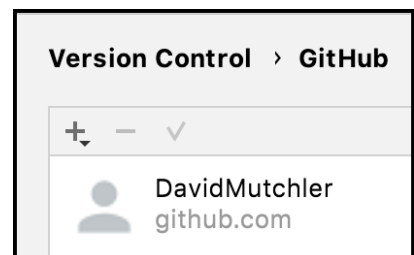
Part 7: Accept a GitHub Classroom Assignment

Now, it is time for you to test whether you have successfully completed Parts 1-6. To do that, you will "Accept a GitHub Classroom Assignment".

For each class session, there will be a corresponding "GitHub Classroom Assignment" for you to get the starting code for the session. For now, we will show you how to get a GitHub Classroom Assignment called **00-Test_setup,** for testing your setup; later we'll show you how to get subsequent assignments.

Step 1. Click this link: https://classroom.github.com/a/_DbGN24d

If asked, enter the GitHub password you selected earlier in these instructions.
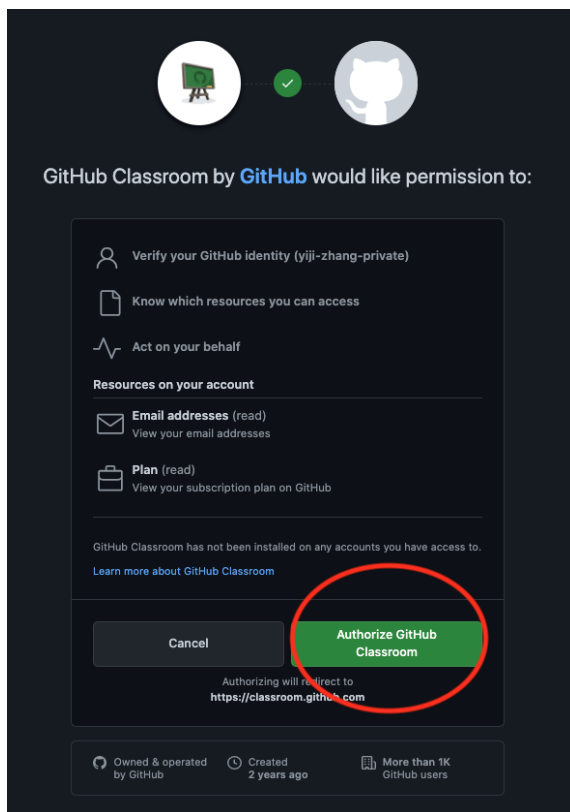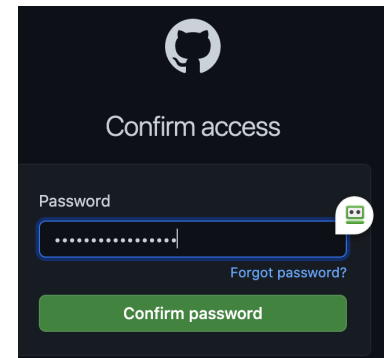

When asked to grant GitHub Classroom some permissions, grant them by selecting *Authorize GitHub Classroom*, as shown to the left.

Step 2. Select *Accept this assignment* to accept "00-Test_setup", as shown below. [The assignment name in these pictures is slightly different from the real name.]
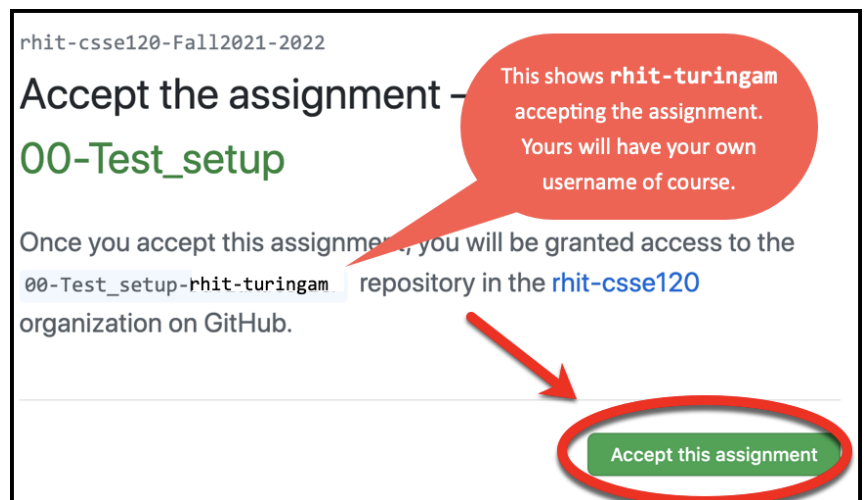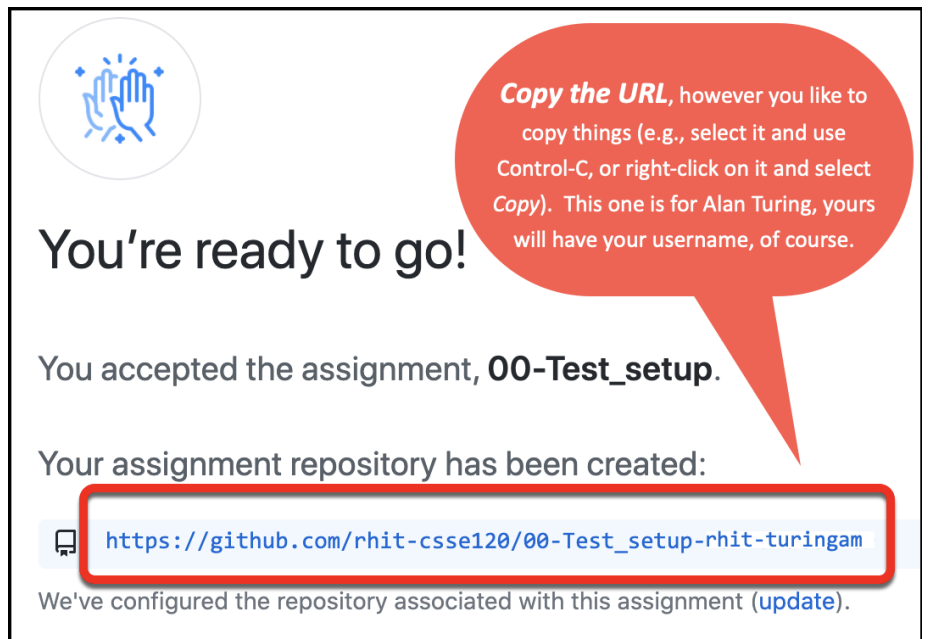
Step 3. Refresh the webpage, as the page that appears says to do. (You can do it right away; it will take only seconds, not minutes, to configure your repository.) Depending on the Operating System and the Browser you use, it might be the "Reload this page" icon like the one to the right (if you use Chrome) that you use to refresh the webpage.
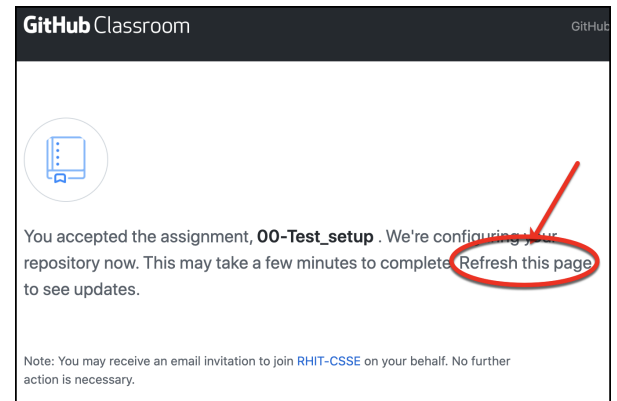
Step 4. You are taken to the page that says you have successfully accepted the assignment and that GitHub classroom created a *repository* (where your code is stored) for you. We'll talk more about repositories later.

Copy the URL, as shown in the picture to the right, however you like to copy things (e.g., select the circled URL and use Control-C, or right-click on the URL and choose *Copy*).

GitHub Classroom

You accepted the assignment, **00-Test_setup** . We're configuring your repository now. This may take a few minutes to complete. Refresh this page to see updates.

Note: You may receive an email invitation to join RHIT-CSSE on your behalf. No further action is necessary.

You're ready to go!

Copy the URL, however you like to copy things (e.g., select it and use Control-C, or right-click on it and select *Copy*). This one is for Alan Turing, yours will have your username, of course.

You accepted the assignment, **00-Test_setup**.

Your assignment repository has been created:

https://github.com/rhit-csse120/00-Test_setup-rhit-turingam

We've configured the repository associated with this assignment (update).

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Part 8: Clone Starting Code from GitHub to Your Computer

For each session, we give you *starting-code* (to help you get started!). This Part of the instructions shows you how to get that Starting Code into PyCharm (the tool that you will use to augment and run your code).

Step 1. Open PyCharm if it is not already open. On the PyCharm "home page", *select Projects* and then click on **Get from VCS,** as shown to the right. (If you accidentally proceeded past the PyCharm "home page", use `File ~ Close Project` to get back to it.)
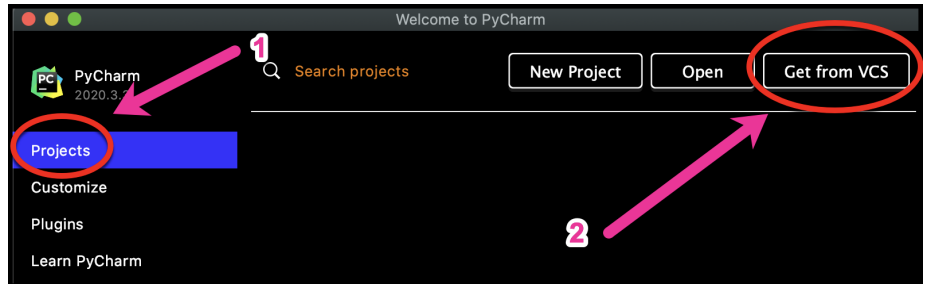
Step 2. You should now see a page that looks like that to the right. Confirm that **Repository URL** and **Git** are selected, as shown. **IMPORTANT:** *leave the Directory as it is!   It is a perfectly fine place for your repositories!*   If you absolutely MUST change it, see your instructor for help to avoid the problems that changing it often causes.
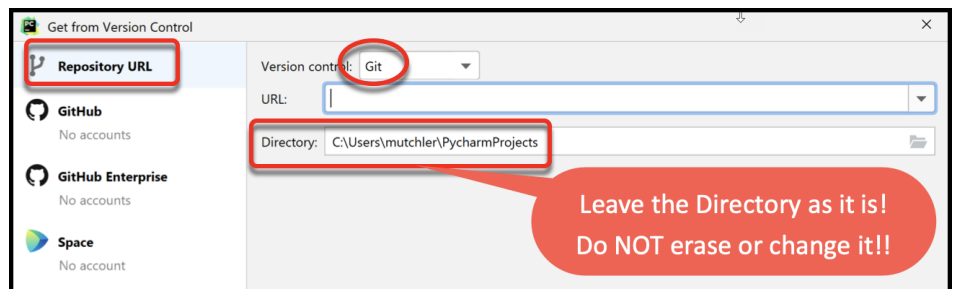
Step 3. In the URL box, *paste the URL* **that you copied from GitHub Classroom** (per the

last step of the previous page). **Do NOT type anything in the *Directory* box;** PyCharm does that for you. The picture to the right shows how mine looked after I pasted my URL.

Step 4. After pasting your URL, *press Clone*, as shown above, and *continue reading these directions on the next page* *before you do anything else.*

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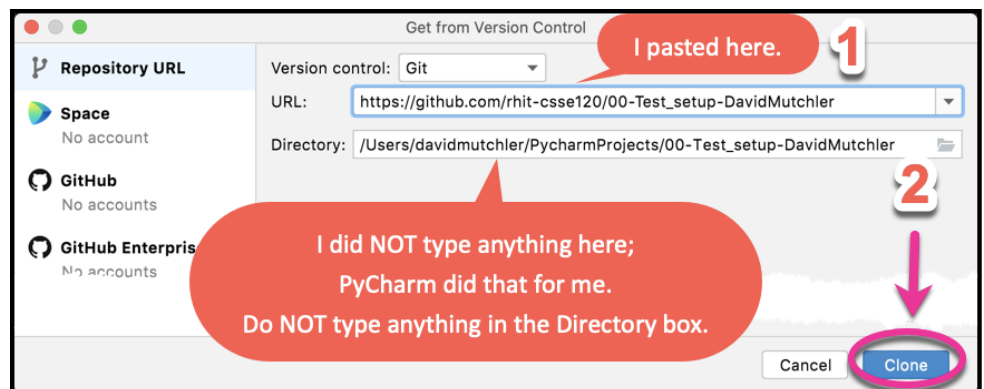
**Step 5.** You *may* see a page like the one shown to the right. If NOT, go directly to Step 6 below..

If you DO see a page like the one to the right, **do NOT choose the default *Log in via GitHub*. Instead, choose *Use Token***, as shown to the right and then proceed as you did on pages 24 to 26 to generate a token and paste it into PyCharm, *then* press the *Log in* button, again as shown to the right. Note that there are steps, shown on pages 24 to 26, between the two items shown above!
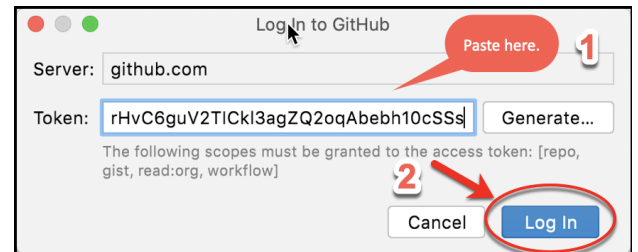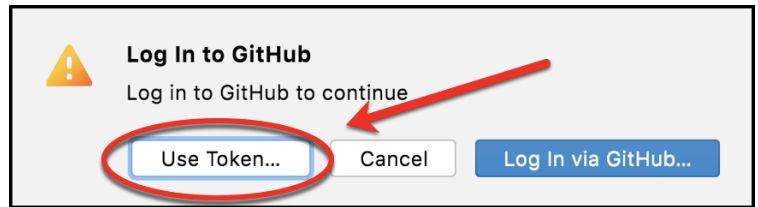

(Hopefully the steps on pages 24 to 26 make Step 5 unnecessary, but your mileage may vary. **Bottom line: If PyCharm EVER asks you to Log In to Github again, repeat the generate-token-and-paste-into-PyCharm process.** If PyCharm asks you to do so repeatedly, get help from your instructor.)

If you see a page like that shown below, **check the box** and select *Trust Project*.
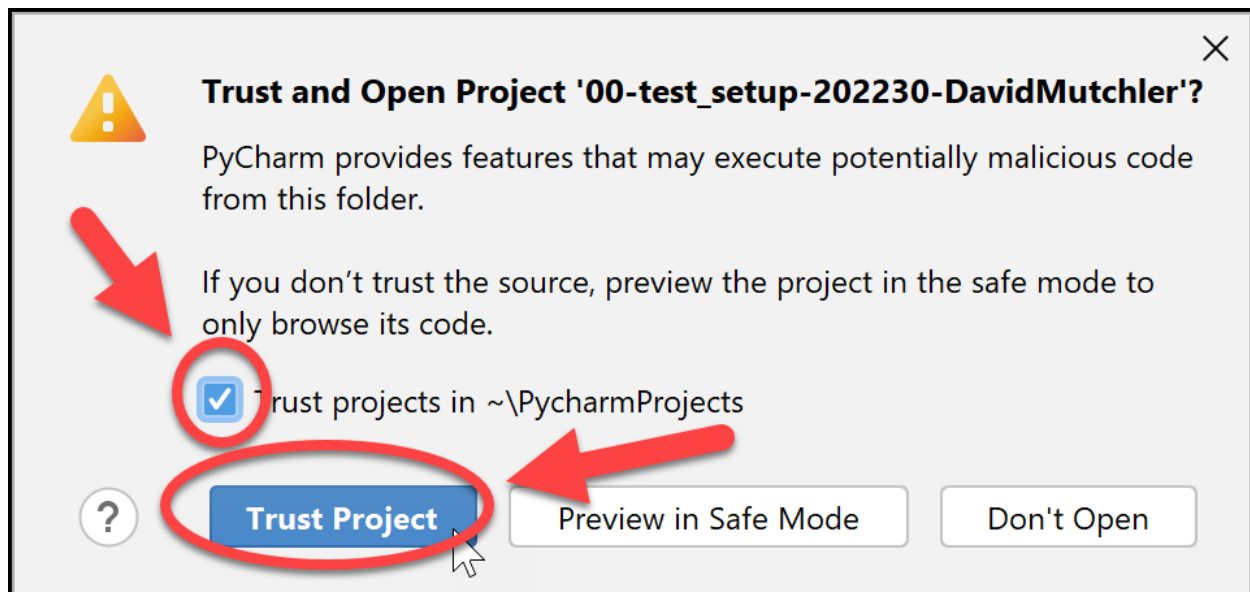
Step 6. If all went well, PyCharm acquires the starting-code from your repository (it takes about 30 seconds) and then looks something like the picture shown below. *If you get any sort of error message, simply stop here and get help from your instructor.*
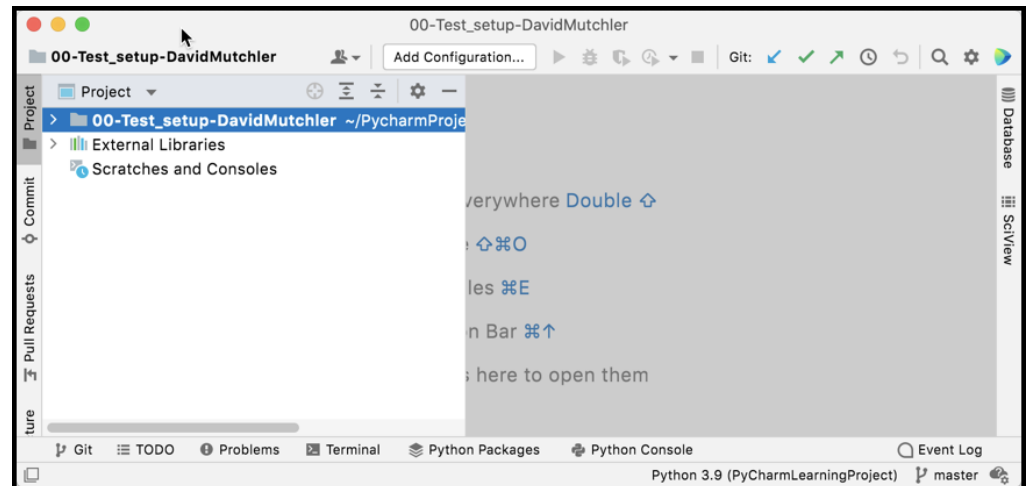
Part 9: Running your first Python program

You will do this via a video that is part of the Preparation for Session 1. No need to do anything at this time.

Part 10: Tailor PyCharm for CSSE 120

You will do this via a video that is part of the Preparation for Session 2. No need to do anything at this time.