Lecture#1 Python Programming

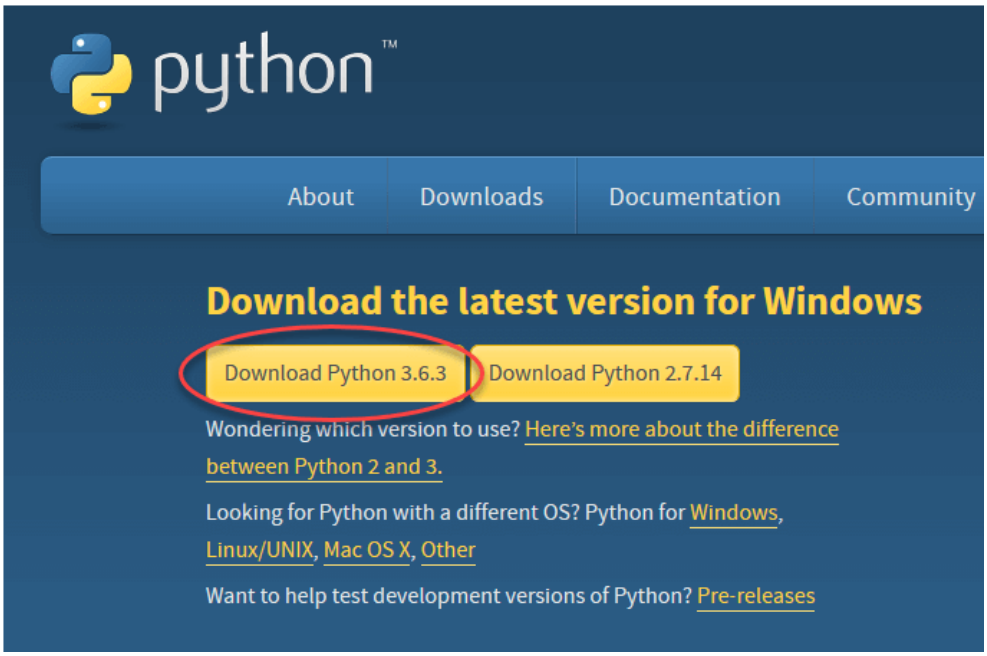
What is Python Programming Language?

Python is an object-oriented programming language created by Guido Rossum in 1989. It is ideally designed for rapid prototyping of complex applications. It has interfaces to many OS system calls and libraries and is extensible to C or C++. Many large companies use the Python programming language, including NASA, Google, YouTube, BitTorrent, etc.

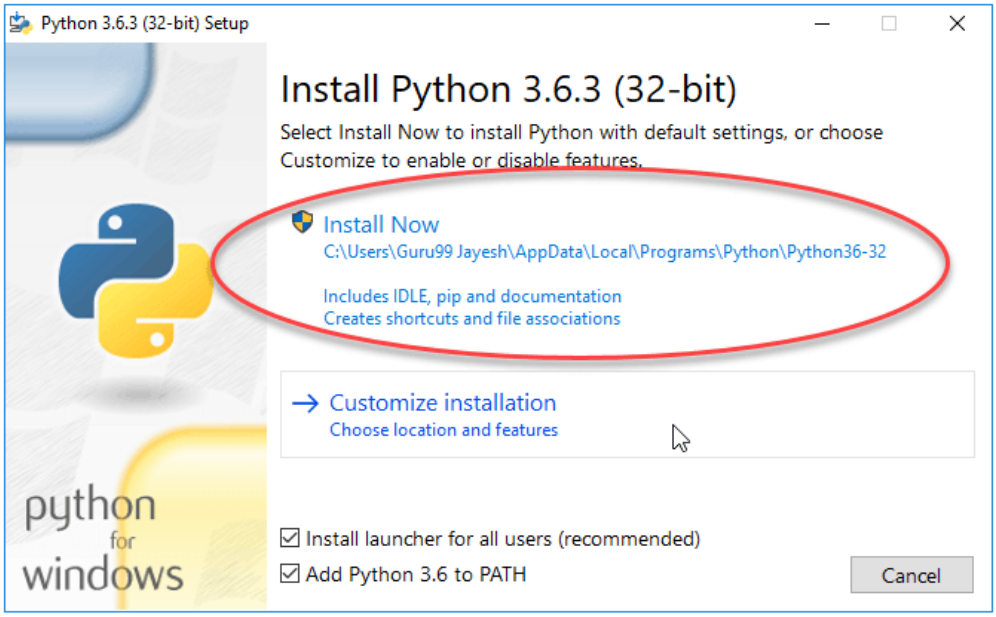
How to Install Python IDE

Below is a step by step process on how to download and install Python on Windows:

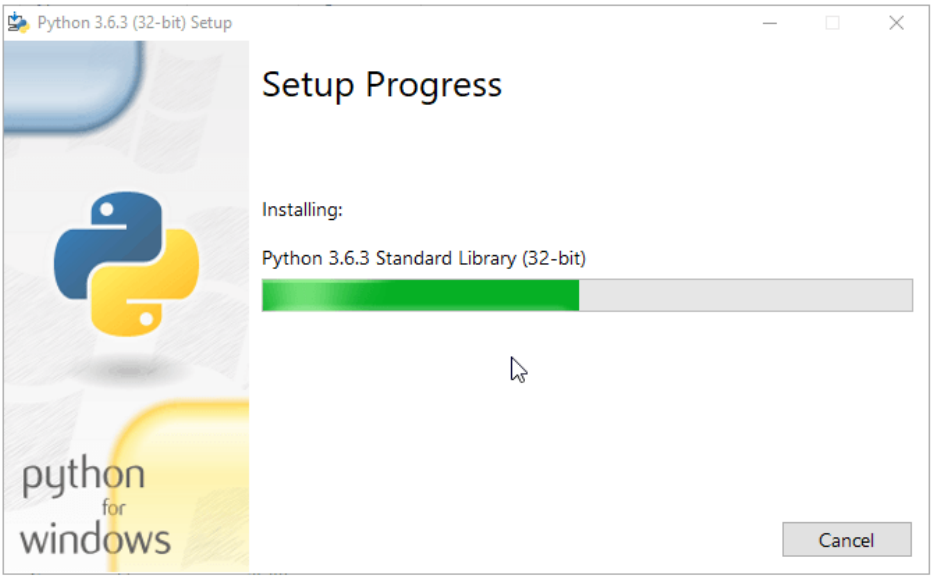
Step 1) To download and install Python, visit the official website of Python https://www.python.org/downloads/ and choose your version. We have chosen Python version 3.6.3



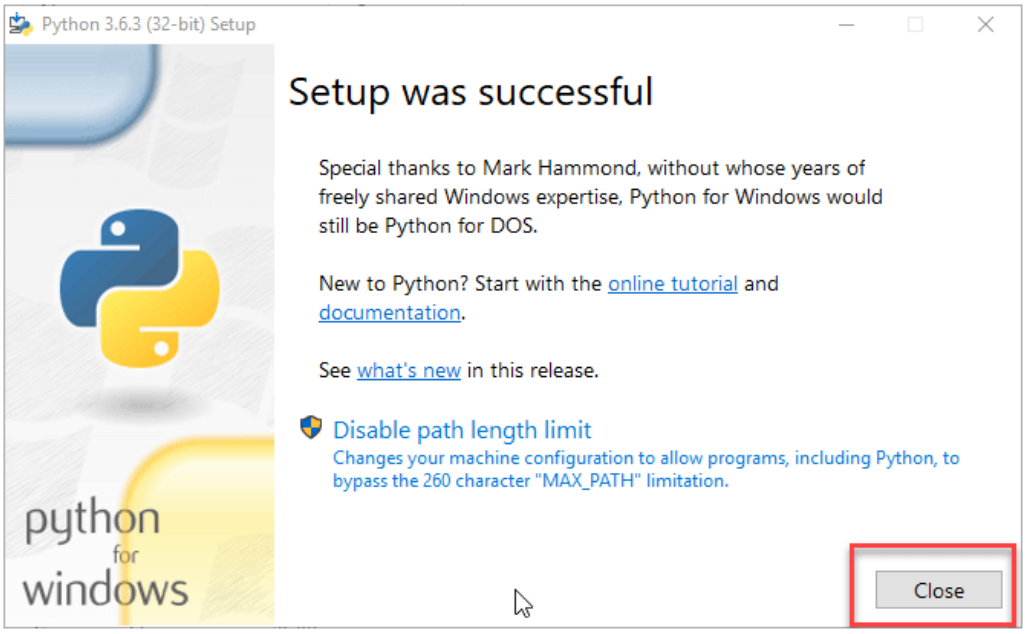
Step 2) Once the download is completed, run the .exe file to install Python. Now click on Install Now.



Step 3) You can see Python installing at this point.



Step 4) When it finishes, you can see a screen that says the Setup was successful. Now click on "Close".



What is an IDE?

An integrated development environment (IDE) is software for building applications that combines common developer tools into a single graphical user interface (GUI). An IDE typically consists of:

- **Source code editor: A text editor that can assist in writing software code with features such as syntax highlighting with visual cues,**

providing language specific auto-completion, and checking for bugs as code is being written.

- **Local build automation: Utilities that automate simple, repeatable tasks as part of creating a local build of the software for use by the developer, like compiling computer source code into binary code, packaging binary code, and running automated tests.**
- **Debugger: A program for testing other programs that can graphically display the location of a bug in the original code.**

There are some Python IDEs which are as follows:

Python IDEs

PyCharm

Spyder

PyDev

Atom

Wing

Jupyter Notebook

Thonny

Rodeo

Microsoft Visual Studio

Eric

PyCharm

PyCharm was developed by the Jet Brains, and it is a cross-platform Integrated Development Environment (IDE) specially designed for python. It is the most widely used IDE and available in both paid version and free open-source as well. It saves ample time by taking care of routine tasks.

It is a complete python IDE that is loaded with a rich set of features like auto code completion, quick project navigation, fast error checking and correction, remote development support, database accessibility, etc.

Features

Smart code navigation

Errors Highlighting

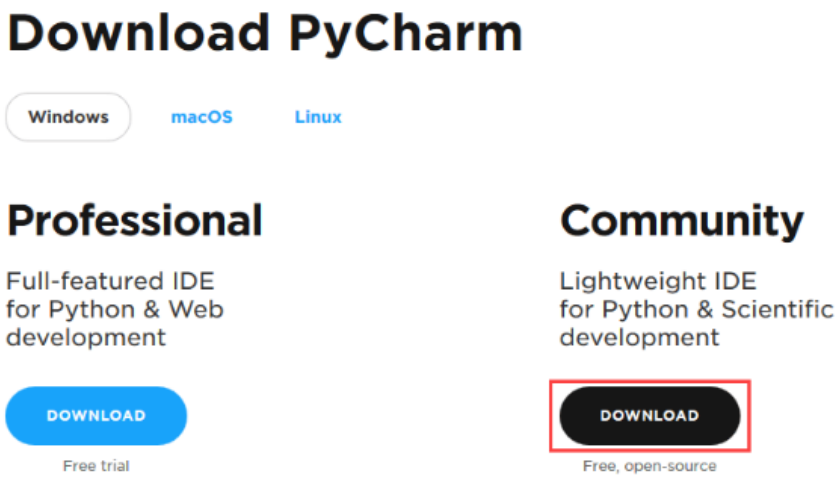
Powerful debugger

Supports Python web development frameworks, i.e., Angular JS, Javascript

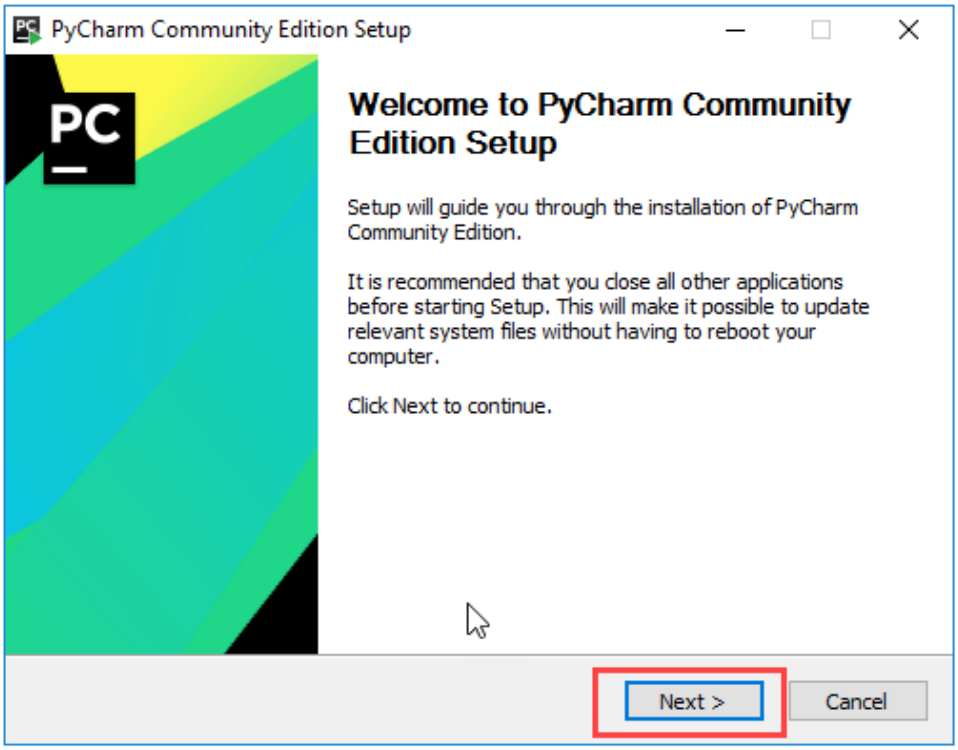
How to Install Pycharm

Here is a step by step process on how to download and install Pycharm IDE on Windows:

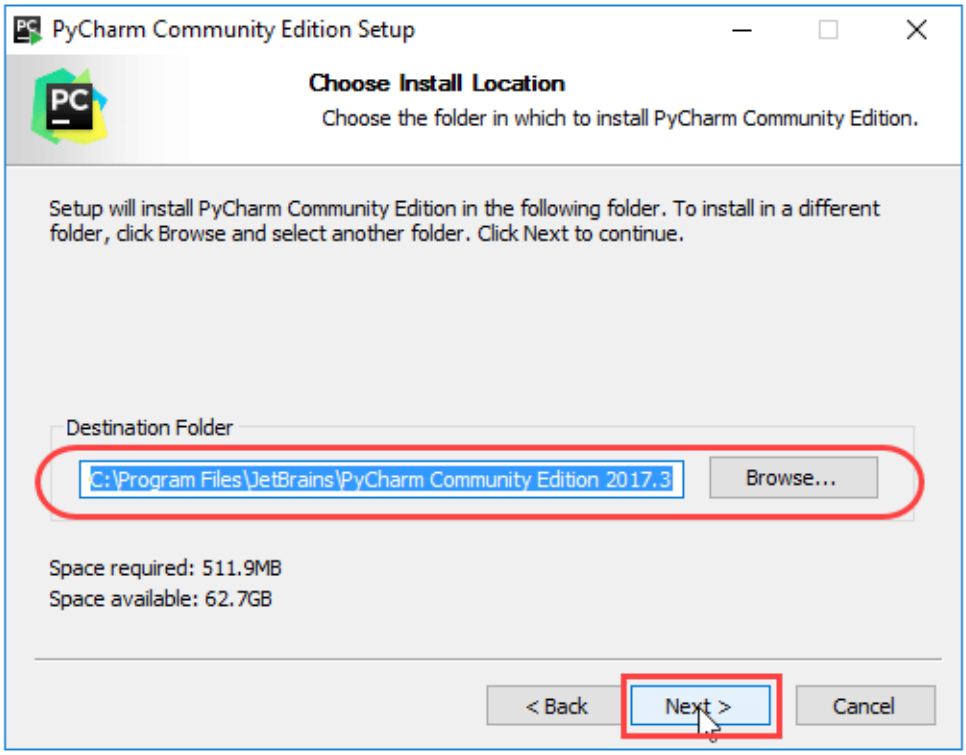
Step 1) To download PyCharm visit the website https://www.jetbrains.com/pycharm/download/ and Click the "DOWNLOAD" link under the Community Section.



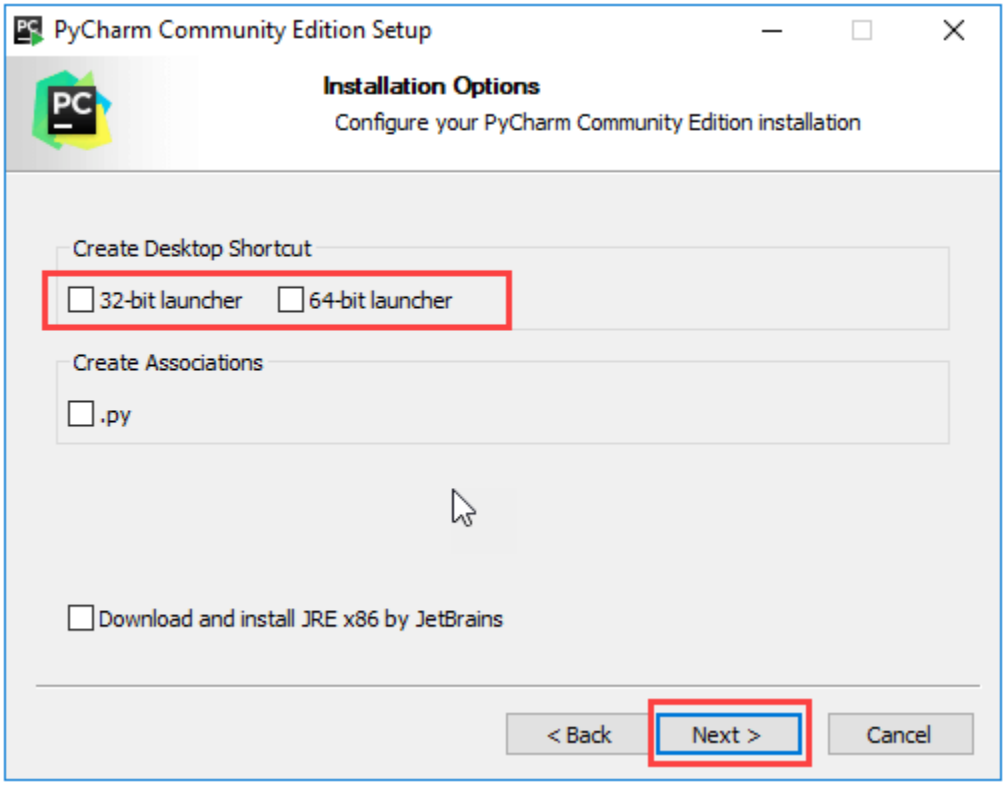
Step 2) Once the download is complete, run the exe for install PyCharm. The setup wizard should have started. Click "Next".



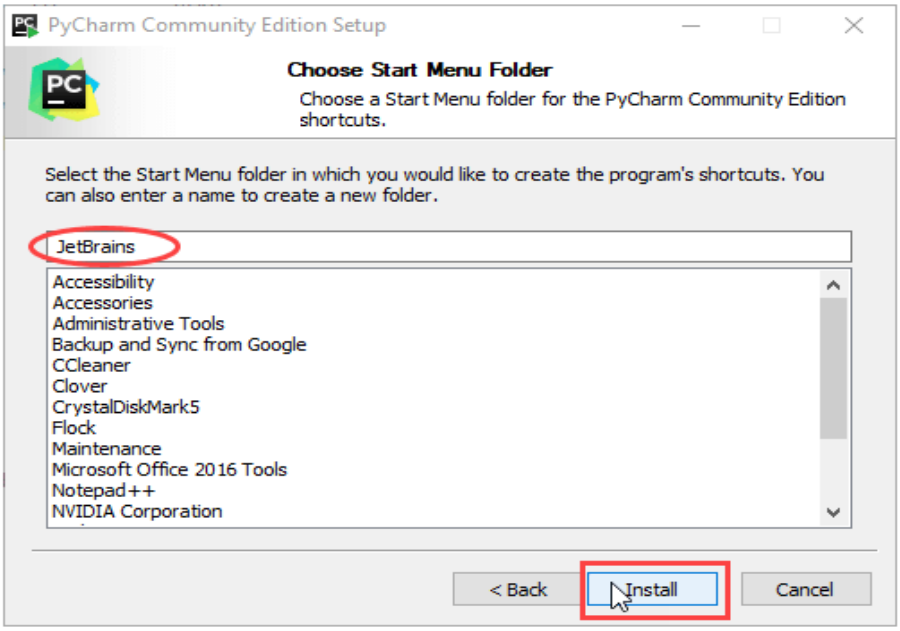
Step 3) On the next screen, Change the installation path if required. Click "Next".



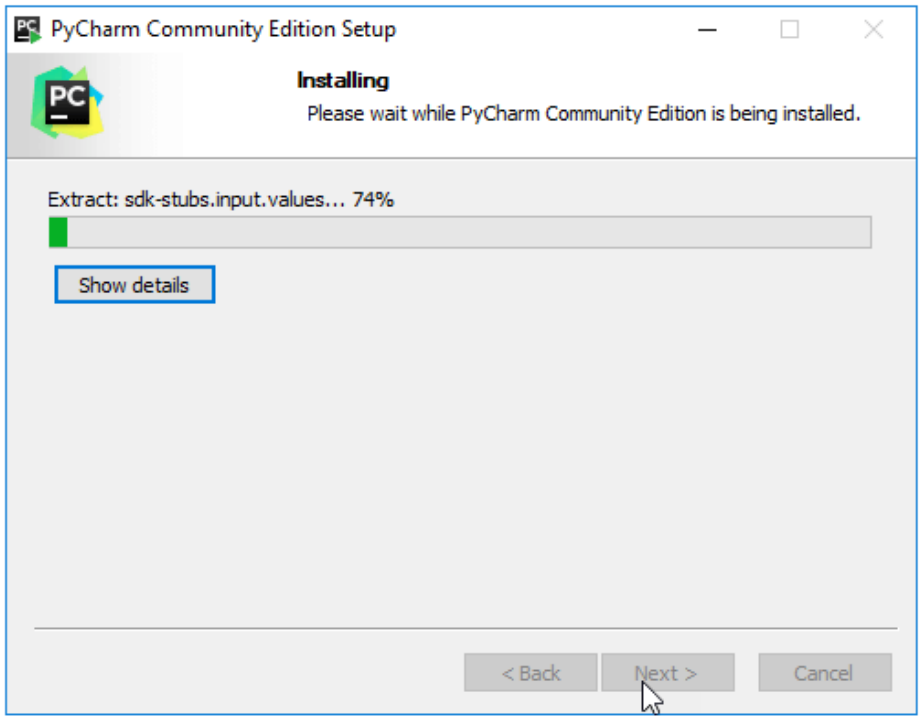
Step 4) On the next screen, you can create a desktop shortcut if you want and click on “Next”.



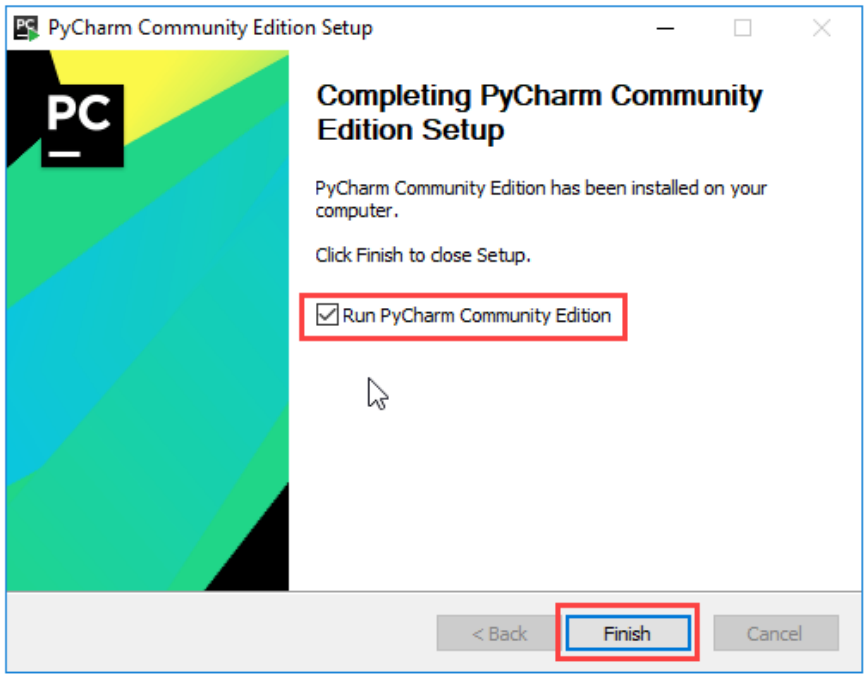
Step 5) Choose the start menu folder. Keep selected JetBrains and click on “Install”.



Step 6) Wait for the installation to finish.



Step 7) Once installation finished, you should receive a message screen that PyCharm is installed. If you want to go ahead and run it, click the "Run PyCharm Community Edition" box first and click "Finish".



Step 8) After you click on “Finish,” the Following screen will appear.