MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERSITY

Santosh,Tangail – 1902

Course Title : Computer Networks Lab

Lab Report Name : Introduction to Python

Lab Report No : 01

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Theory:

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms.

Setup of Python Environment

STEP 1: Open Eclipse and setup a correct access to Internet (This is required only in RMIT network). In order to set up Manual Proxy follow the instructions (see also figure 1):

a. Go to **Windows > Preferences > General > Network Connections.**

b. Change Active Provider to Manual.

c. Input proxy details, including username/password if required.

- **Host:** proxy.rmit.edu.au
- **Port:** 8080
- **Username/password:** No required

d. Clear SOCKS proxy.

e. Restart Eclipse.

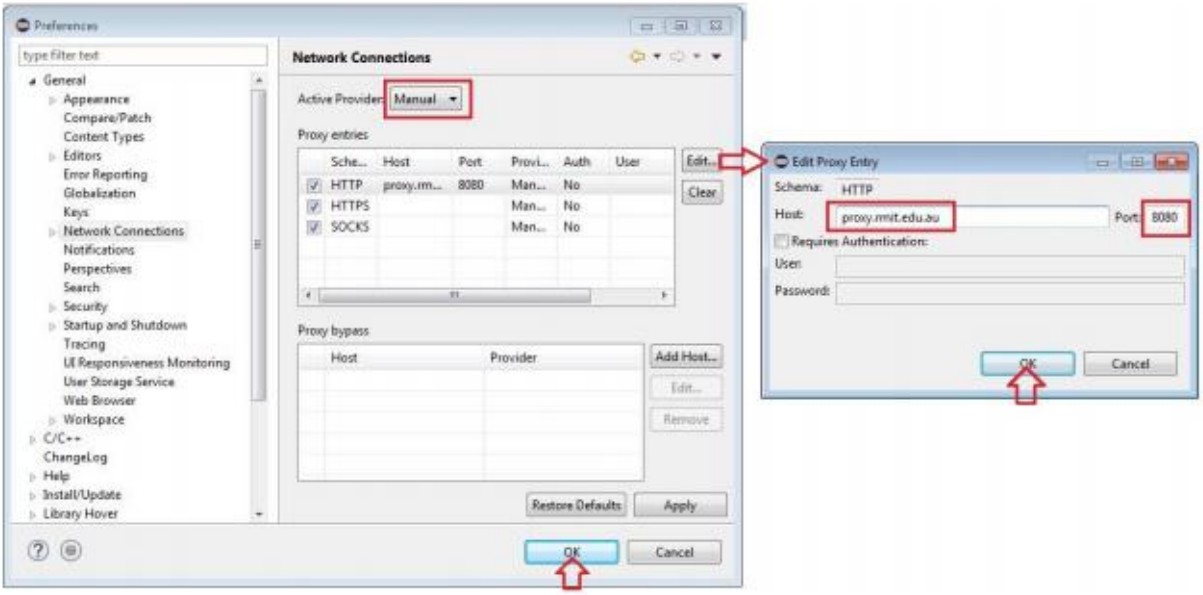


Figure 1: Eclipse Setup for Internet

STEP 2: Installing python environment using Eclipse Graphical Interface1.

a. To install PyDev and PyDev Extensions using the Eclipse Update Manager, you need to use the **Help > Install New Software**... menu (note that in older versions, this would be the 'Find and Install' menu) as shown in the following figure:

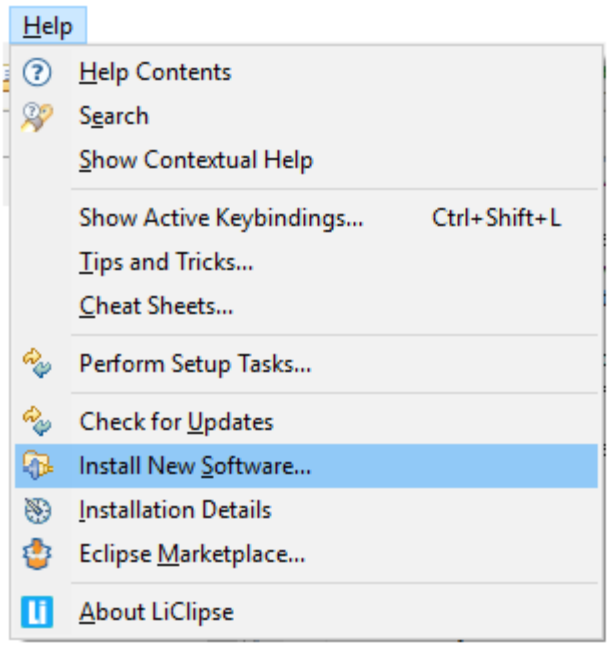


Figure 2: Setup

b. In the next screen, add the update site(s) you want to work with (see the figure below). The available update sites are :

http://www.pydev.org/updates

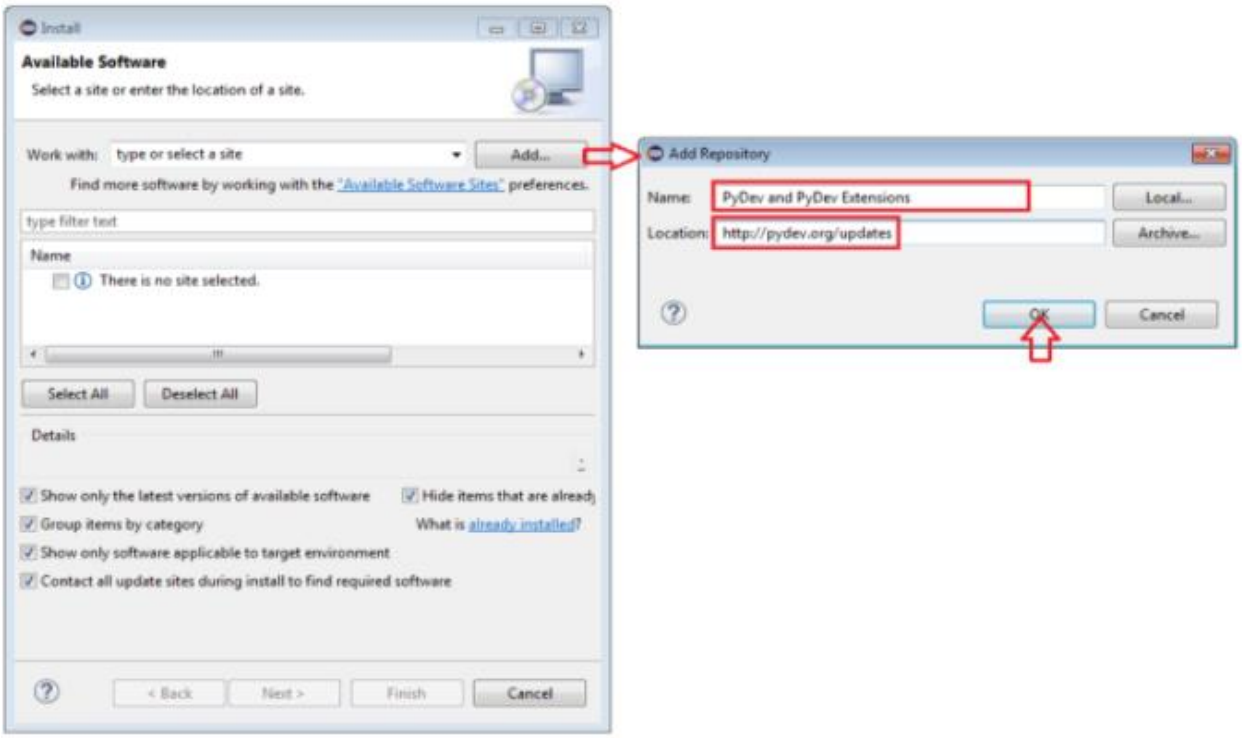


Figure 3: Setup Python on Eclipse

c. After entering the update sites, select the update site you entered or select "All available sites" and add a filter for PyDev, so that it shows the contents of all the update sites that have PyDev, then select what you want to install and click 'Next' (See the figure below):

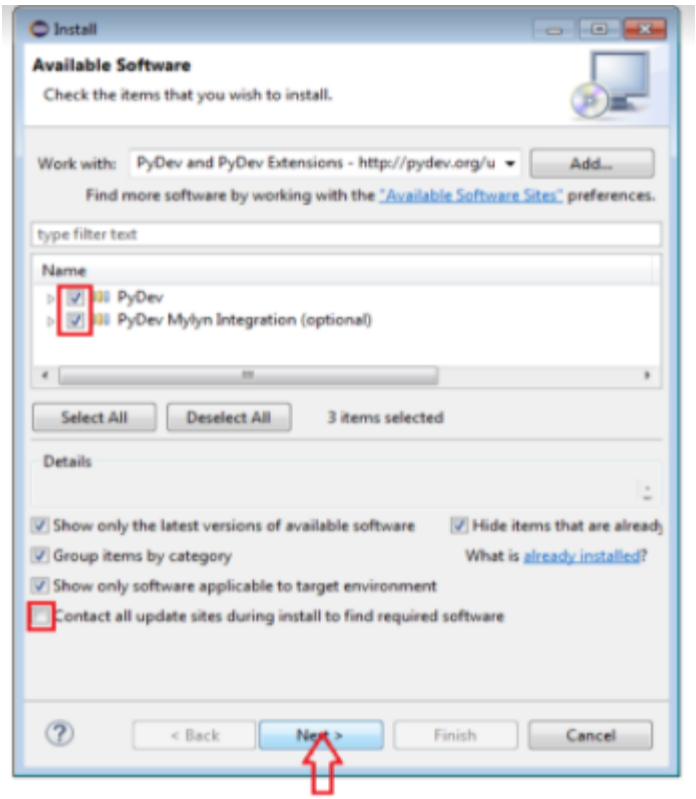


Figure 4: Setup Python on Eclipse

d. Then, UNCHECK the 'Contact all update sites during install to find required software' and press 'NEXT' again to confirm your selection(see the figure below):

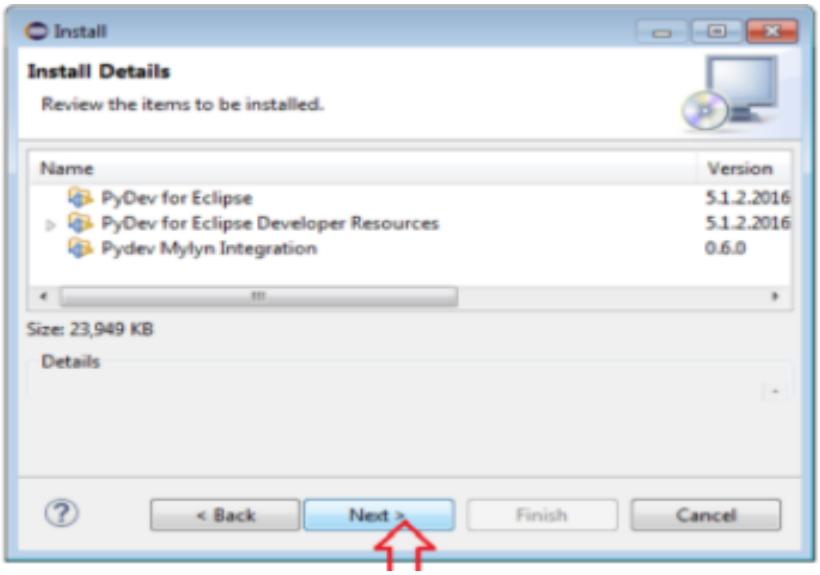


Figure 5: Setup Python on Eclipse

e. And finally, read the license agreement if you accept, select the accept radio button and click ‘Finish’(see the figure below):

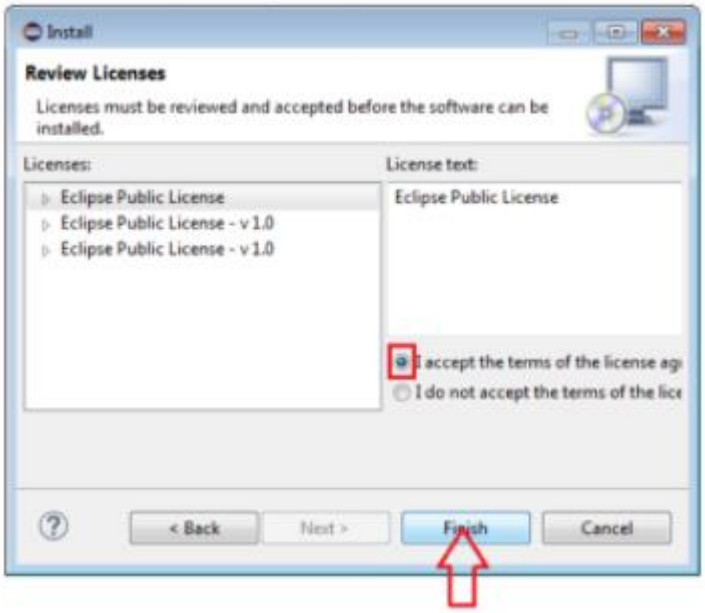
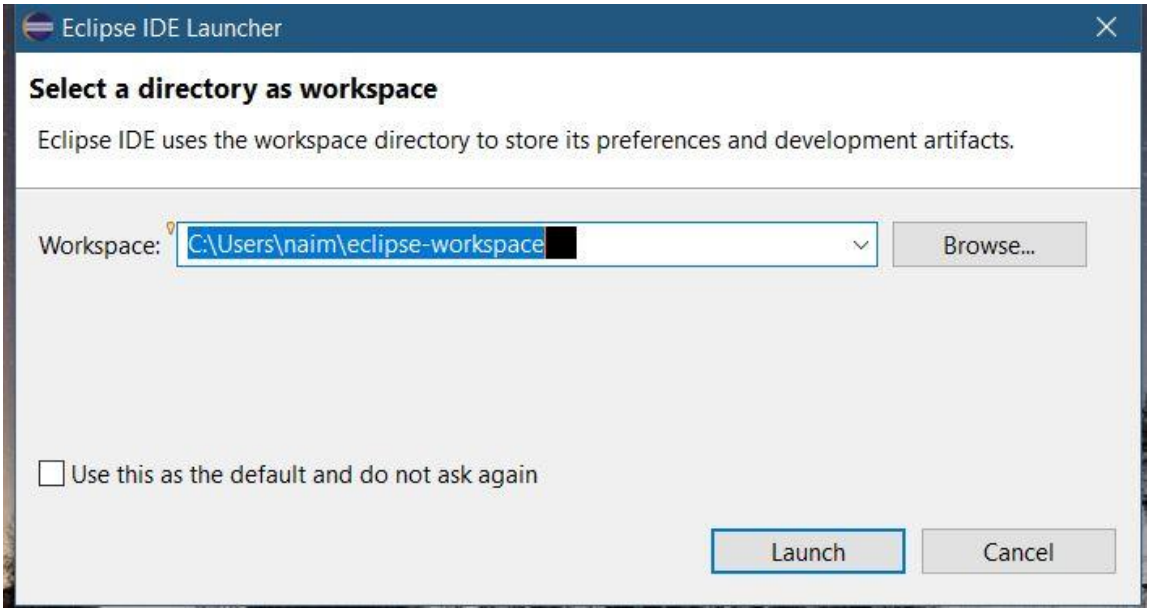
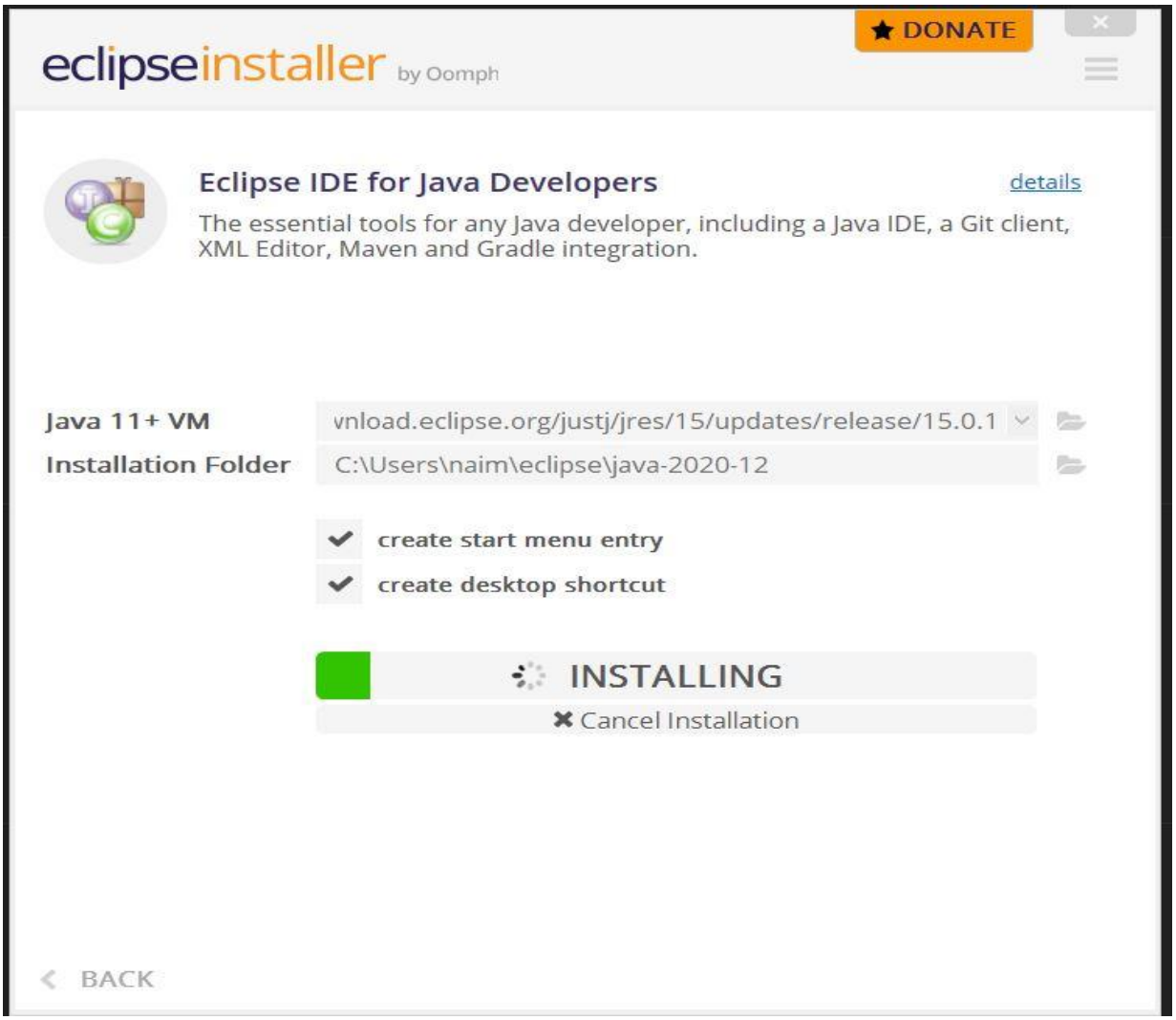


Figure 6: Setup Python on Eclipse

f. At the point, Eclipse should automatically download the plugin contents and present you to a dialog asking if you want to restart (to which you should say **yes**).

STEP 2: Checking the installation: You can verify if it is correctly installed going to the menu 'window> preferences' and checking if there is a PyDev item under that (see Figure 7). After that eclipse will display the graphical interface for python perspective, the main components are (see Figure 8):


Eclipse IDE Launcher
Select a directory as workspace
Eclipse IDE uses the workspace directory to store its preferences and development artifacts.
Workspace:
C:\Users\naim\eclipse-workspace
Browse...
Use this as the default and do not ask again
Launch
Cancel

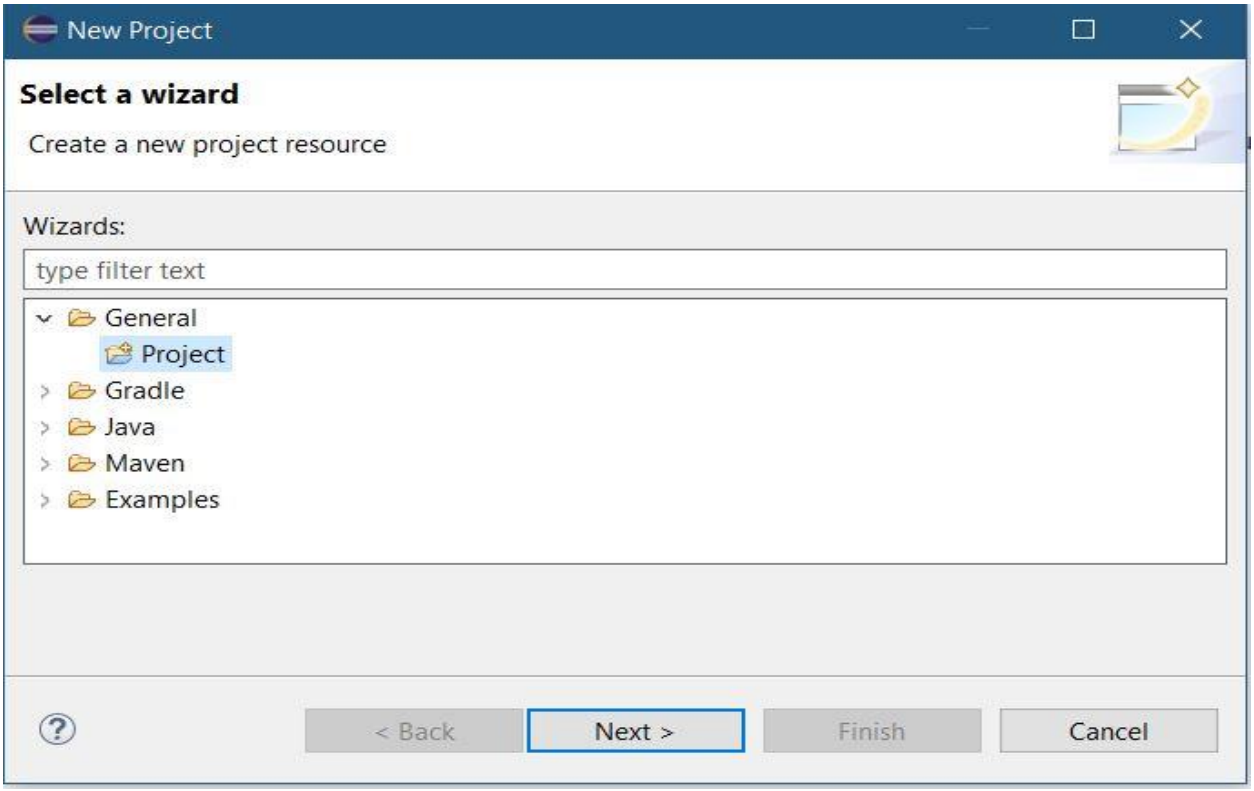

eclipseinstaller by Oomph
DONATE
Eclipse IDE for Java Developers
details
The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Maven and Gradle integration.
Java 11+ VM
vnload.eclipse.org/justj/jres/15/updates/release/15.0.1
Installation Folder
C:\Users\naim\eclipse\java-2020-12
create start menu entry
create desktop shortcut
INSTALLING
Cancel Installation
BACK

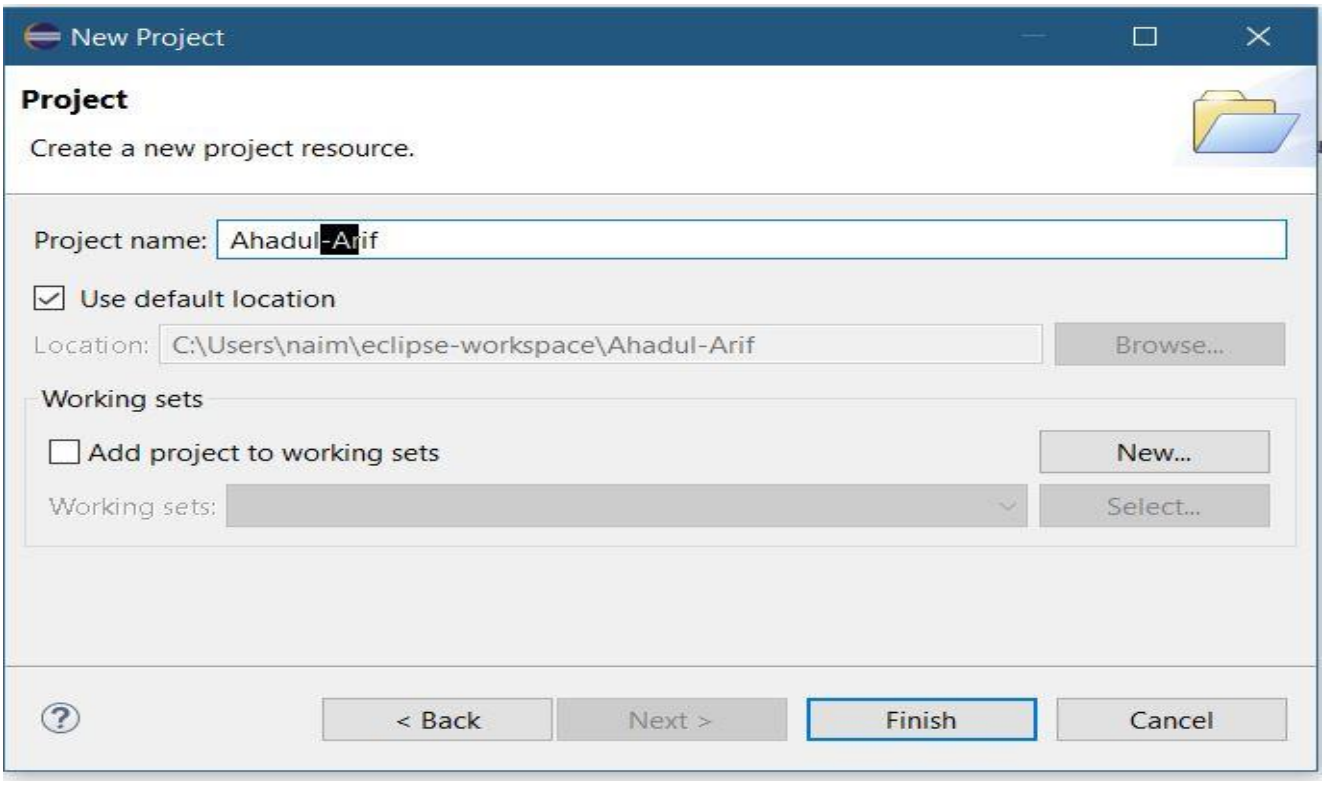
Exercises

Section 4.1: Basics of python and programing

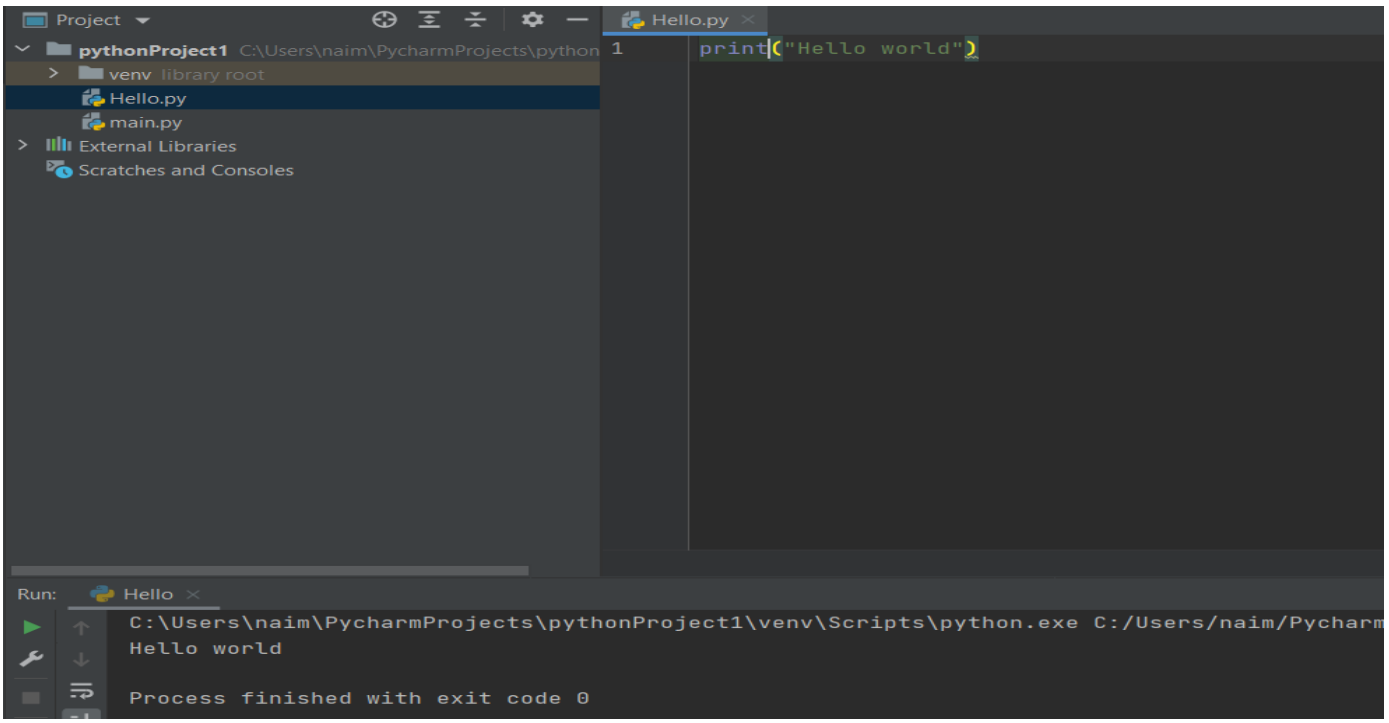
Exercise 4.1.1: Create a python project.

Answer:

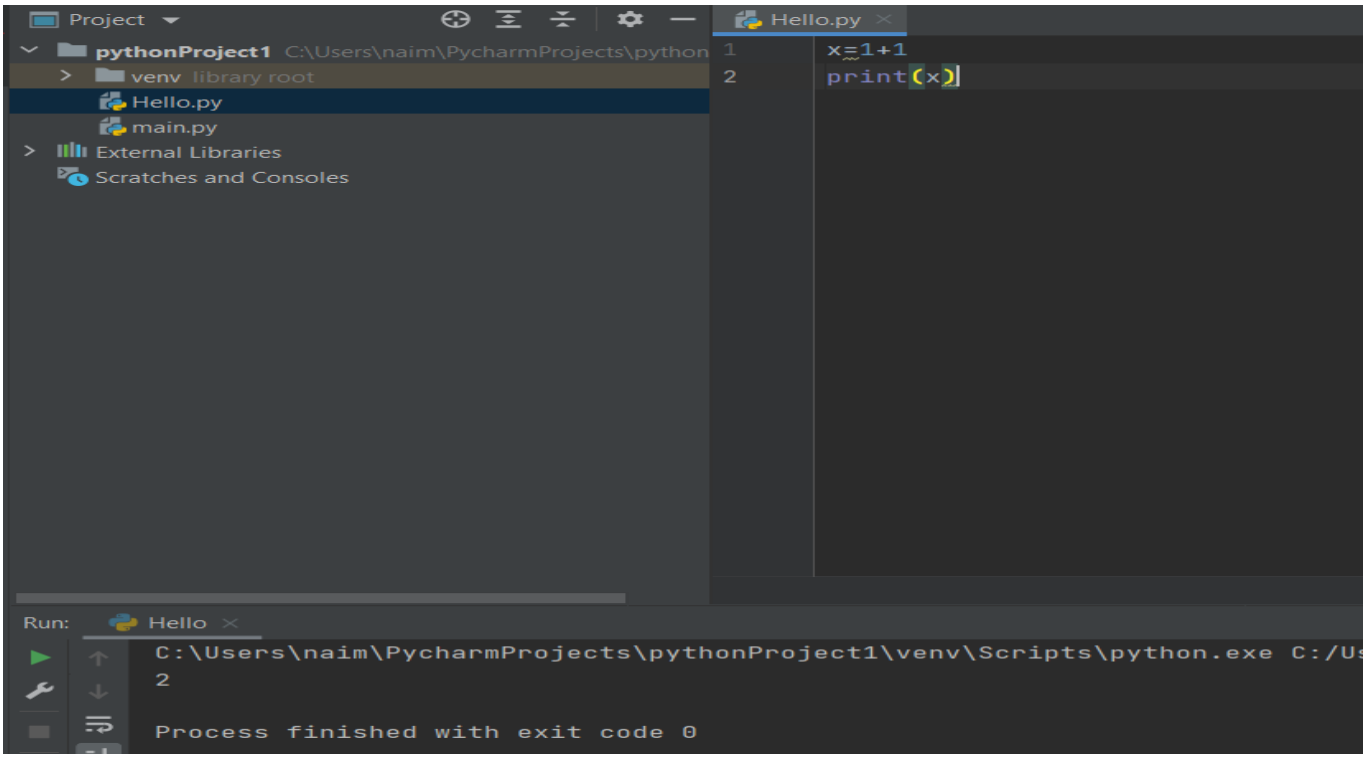




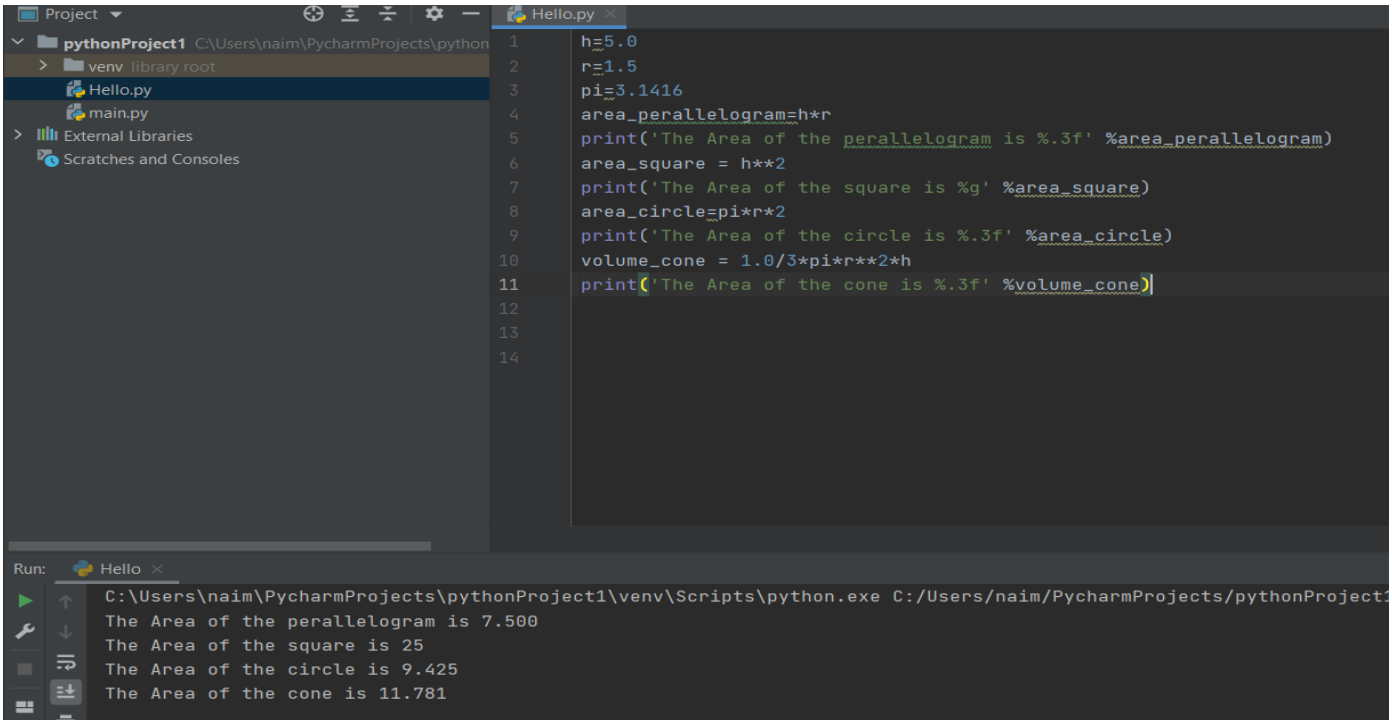
Exercise: 4.1.2 : Write a Hello World Program.



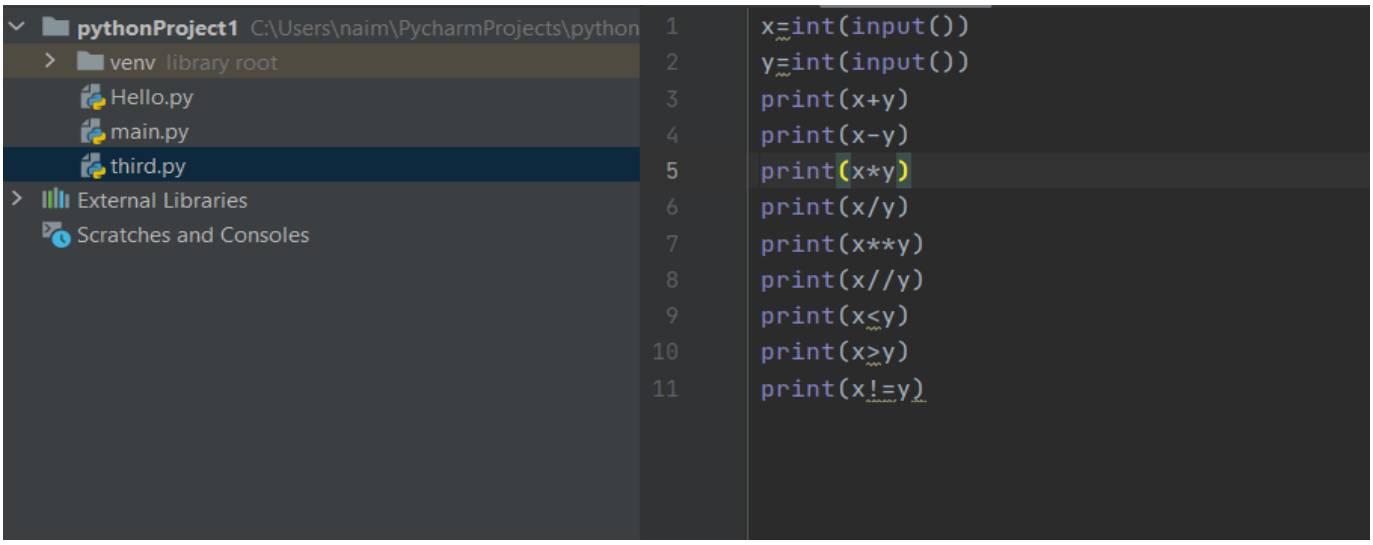
Exercise 4.1.3: Compute 1+1



Exercise 4.1.4: Type in program text

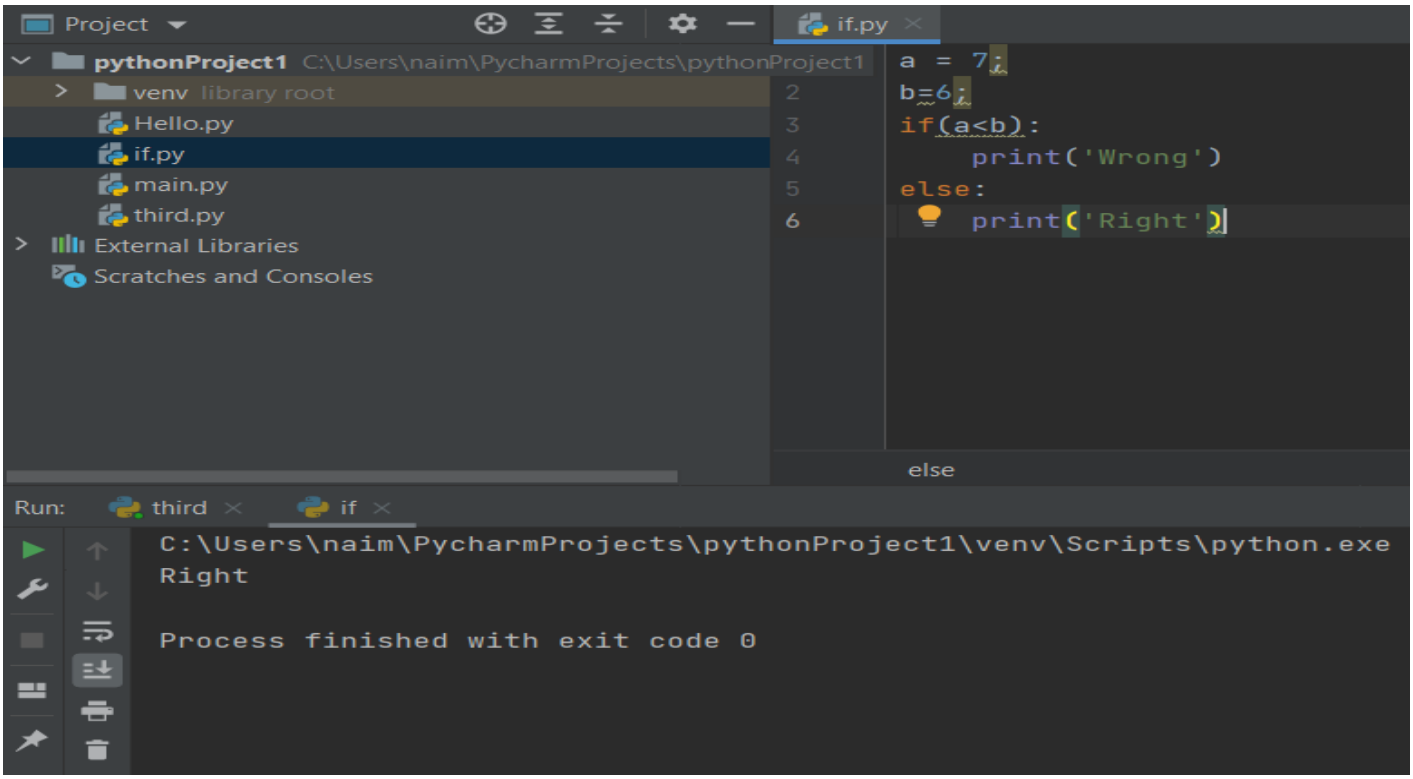


Section 4.1: Create and run basic example.

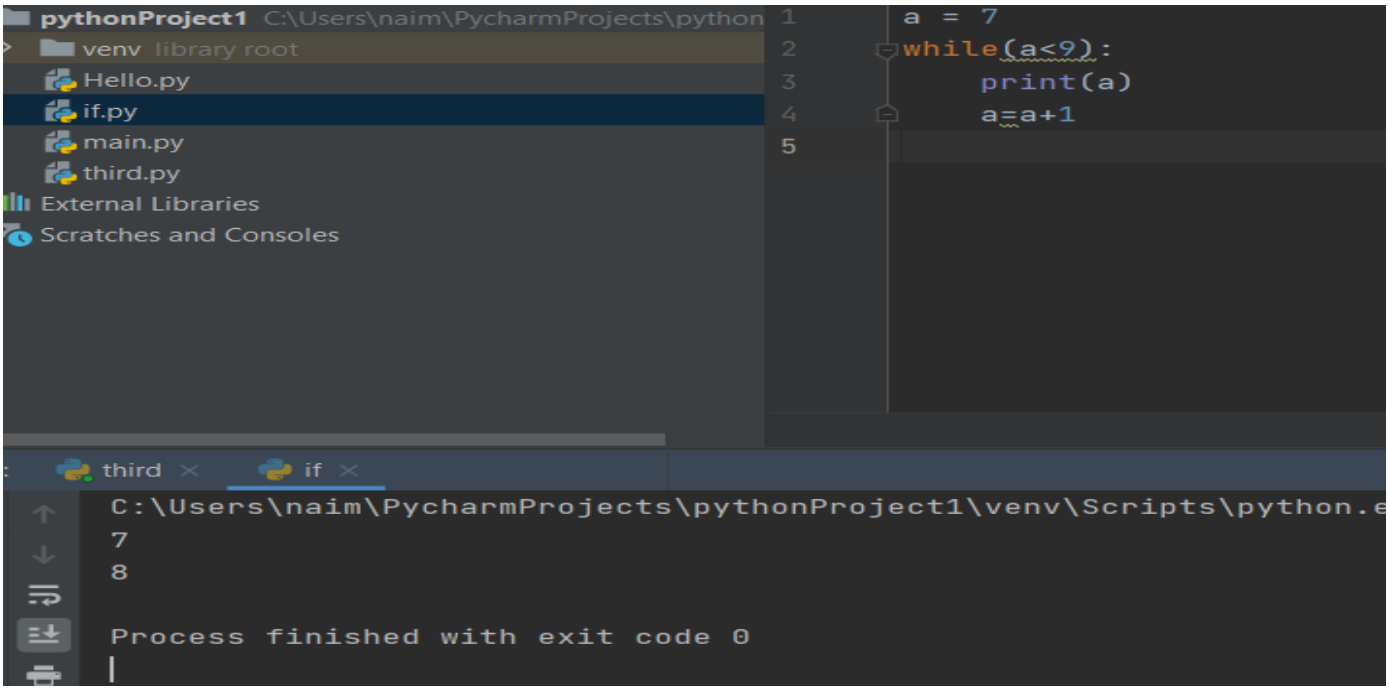



```
C:\Users\naim\PycharmProjects\pythonProject1\venv\Scripts\pyt
5
6
11
-1
30
0.8333333333333334
15625
0
True
False
True
```

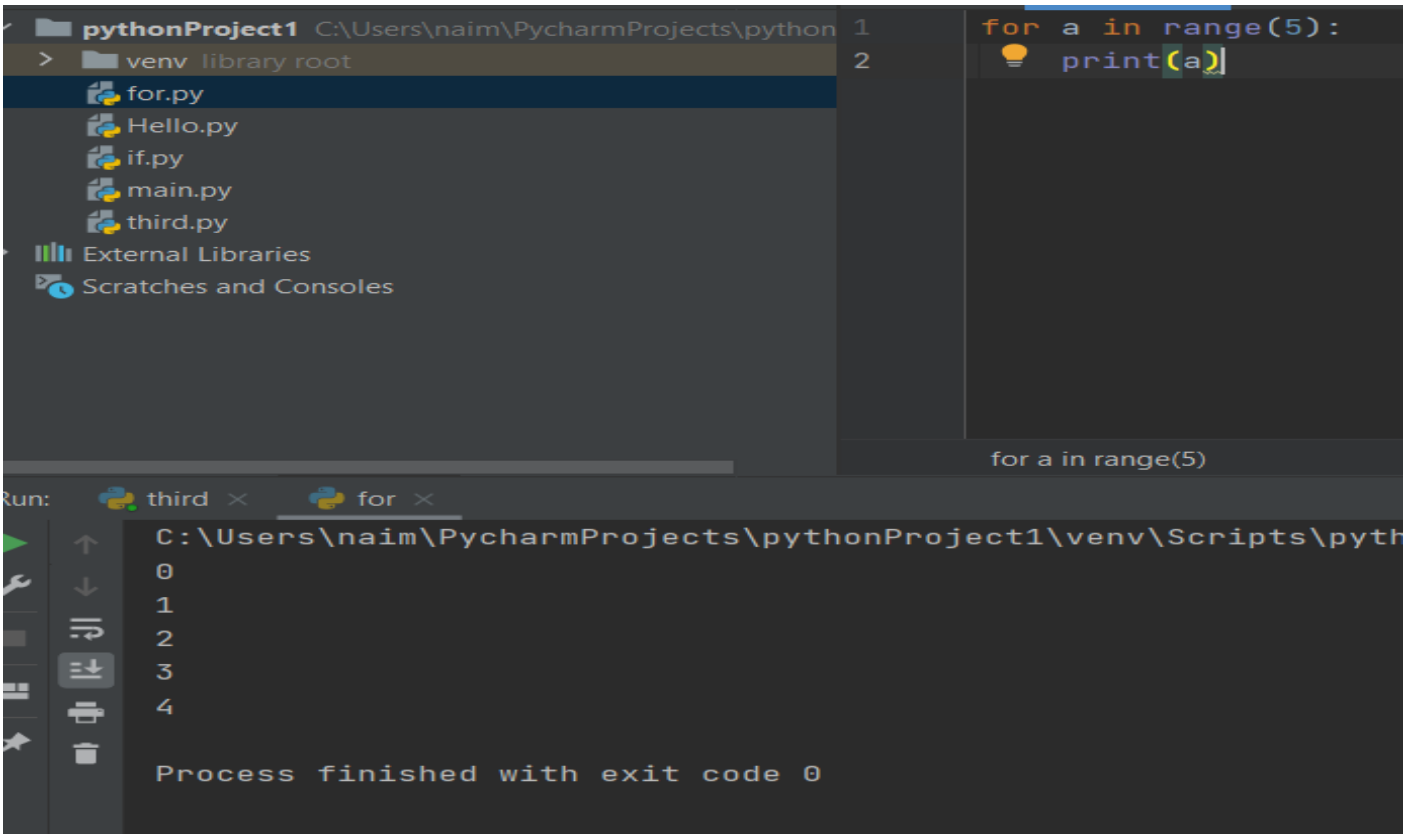
Exercise 4.2.2: The if statement:



Exercise 4.2.3: The while Statement



Exercise 4.2.4: The for Statement



Conclusion: Python is a language that is remarkably easy to learn, and it can be used as a stepping stone into other programming languages and frameworks. If you're an absolute beginner and this is your first time working with any type of coding language, that's something you definitely want.

Python is widely used, including by a number of big companies like Google, Pinterest, Instagram, Disney, Yahoo!, Nokia, IBM, and many others. The Raspberry Pi – which is a mini computer and DIY lover's dream – relies on Python as it's main programming language too. You're probably wondering why either of these things matter, and that's because once you learn Python, you'll never have a shortage of ways to utilize the skill. Not to mention, since a lot of big companies rely on the language, you can make good money as a Python developer.