Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 01

Course code: ICT-3208

Course title: Computer Network Lab

Report Name: Introduction to Python

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Experiment No: 01

Experiment Name: Introduction to Python

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.

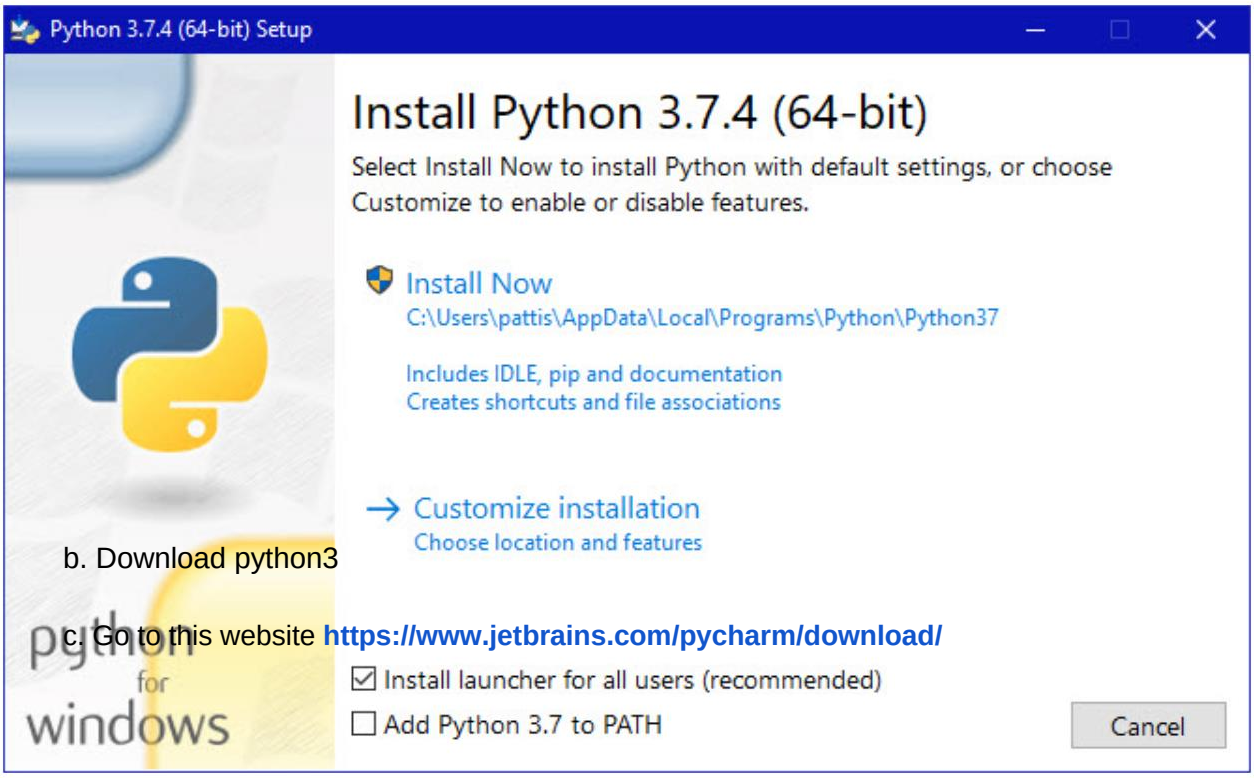
Methodology:

Setup of Python Environment:

Section 3.1: *Download python3 and Pycharm IDE and install them.*

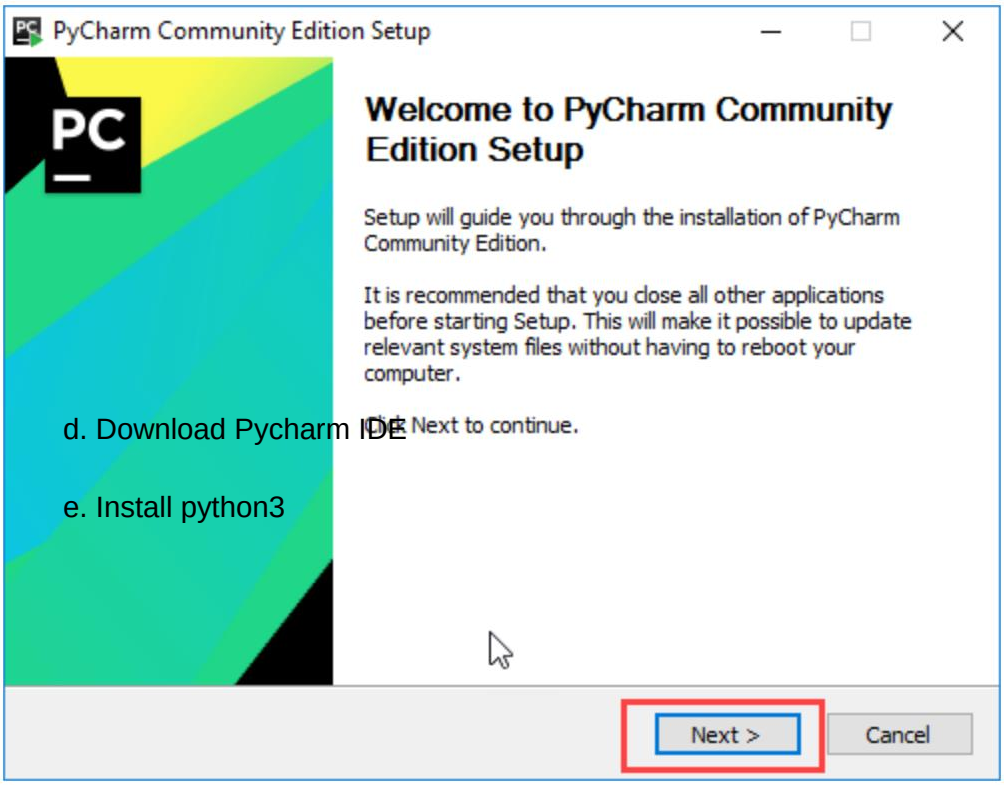
STEP 1: In order to set up follow the instructions :

a. Go to this website **https://www.python.org/downloads/**



b. Download python3

c. Go to this website **https://www.jetbrains.com/pycharm/download/**



d. Download Pycharm IDE

e. Install python3

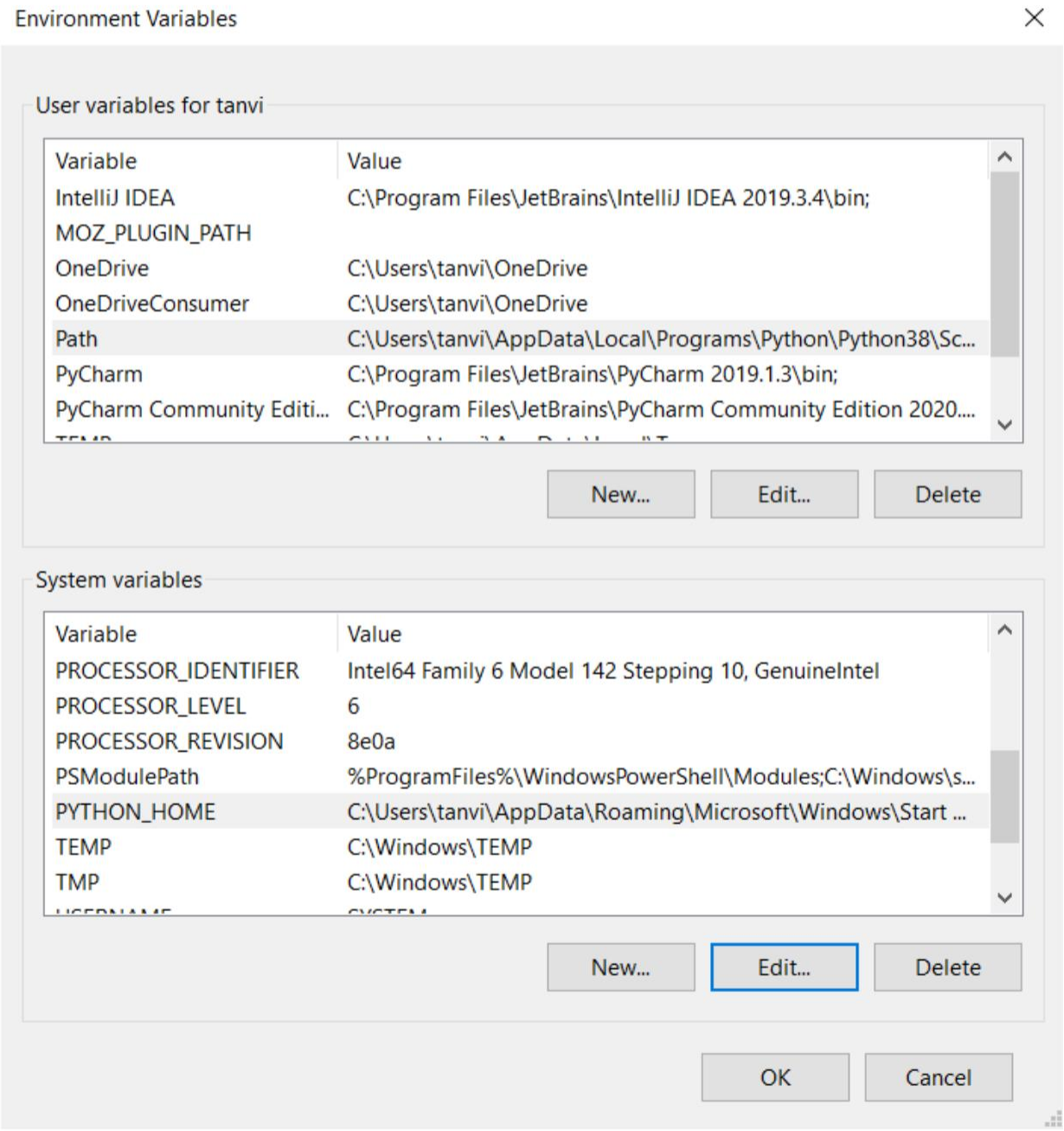
Section 3.2: *Setup of Python Environment*

STEP 1: Open windows environment variables settings and set the path variable of python3.

In order to set up follow the instructions :

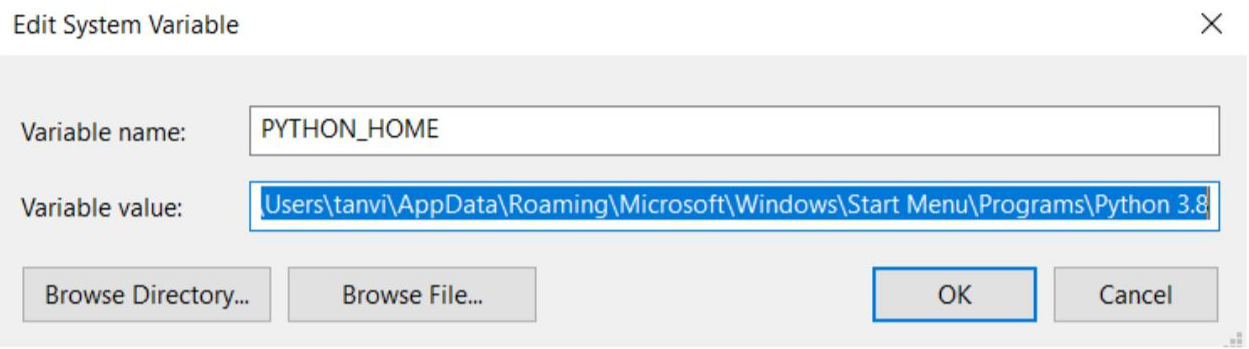
a. Go to **Control Panel >System and Security >System >Advanced System Settings**

b. Open **Environment variables settings**



c. In the System Variables Section create a new variable named

PYTHON_HOME d. Set the path for PYTHON_HOME

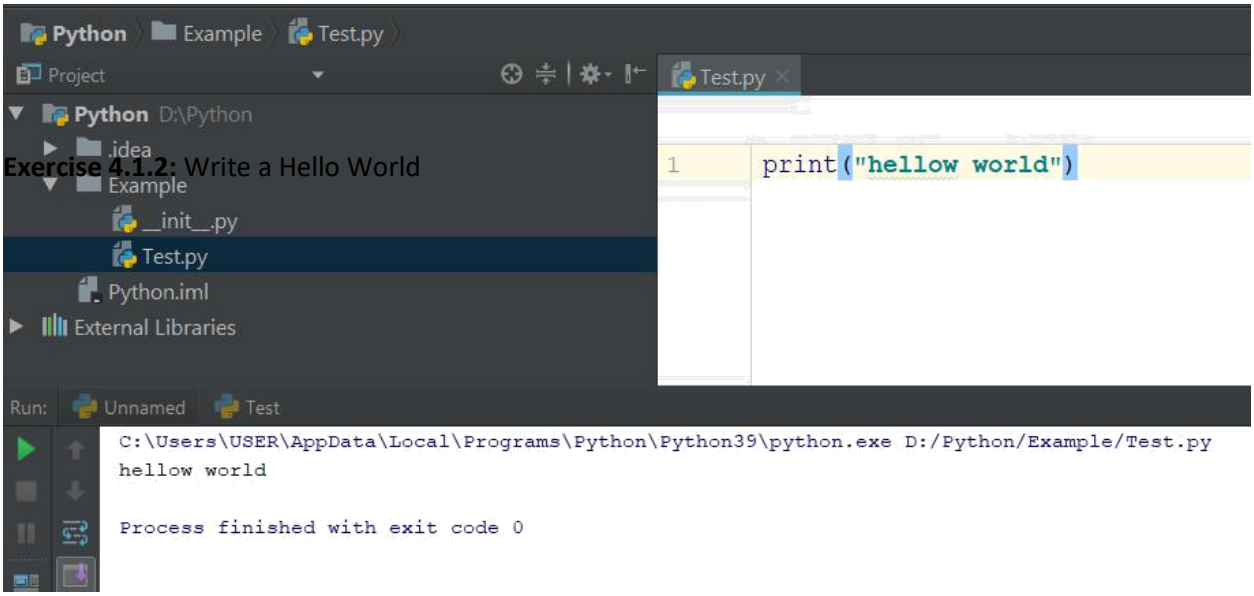


e. Save that path.

Section 3.3: *Start pycharm IDE.*

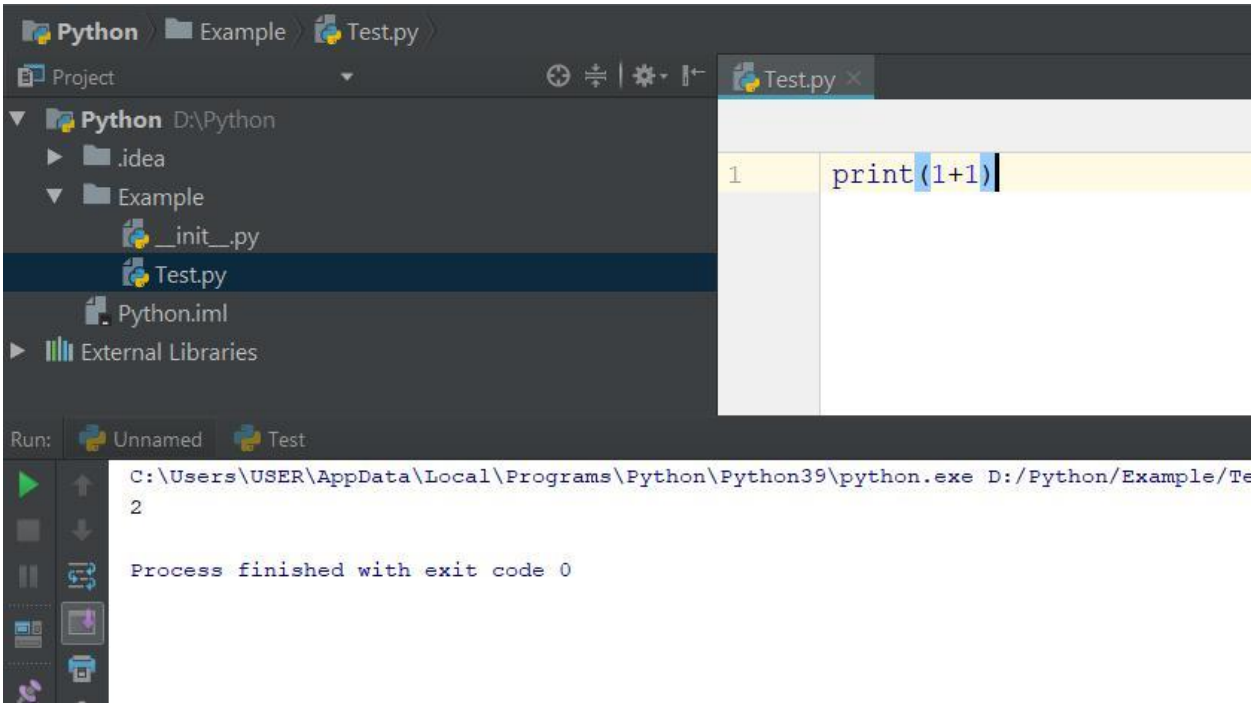
In order to start pycharm IDE follow these instructions :

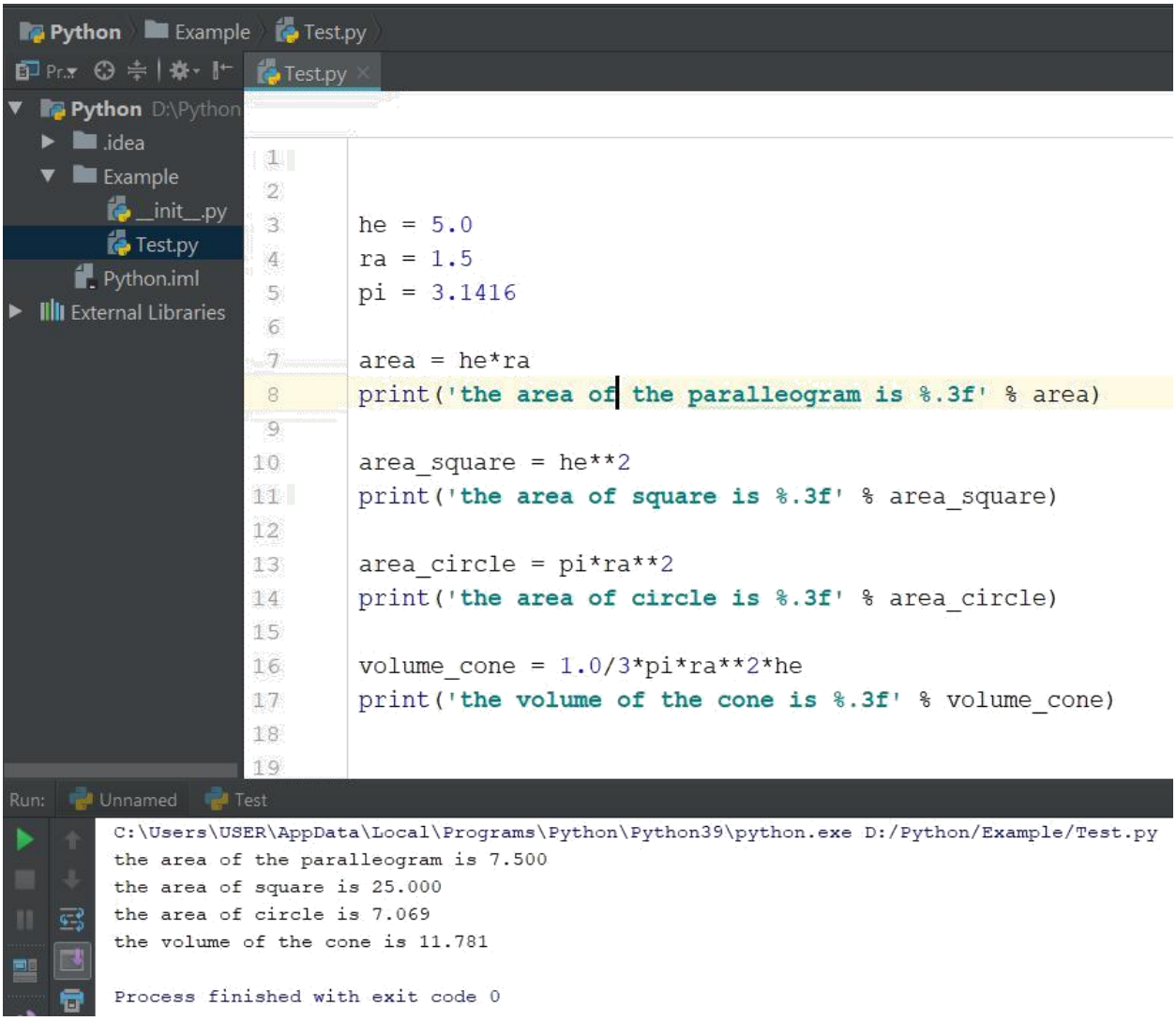
a. Go to **Start**



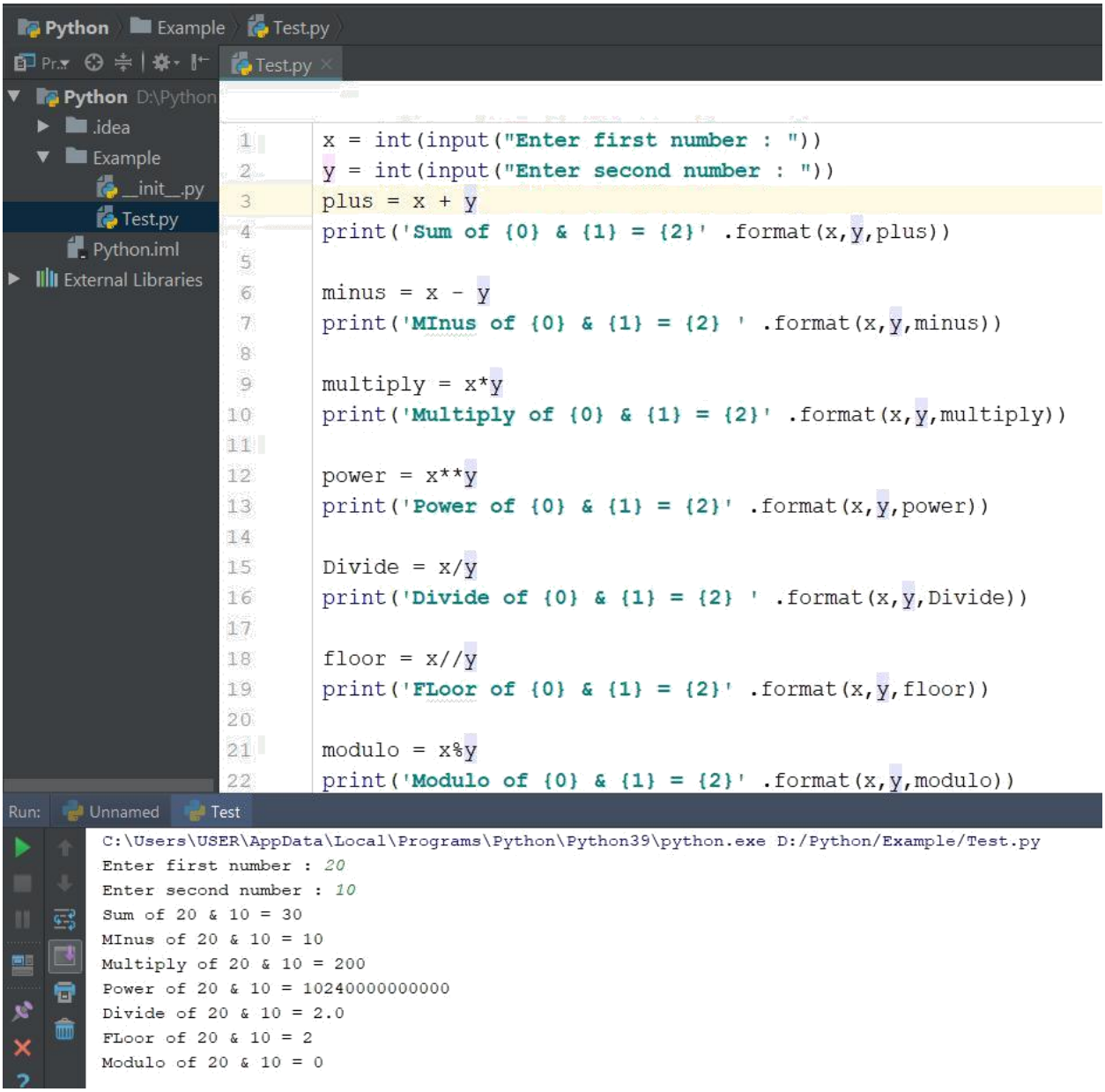
Exercise 4.1.2: Write a Hello World

Exercise 4.1.3: Compute 1+1

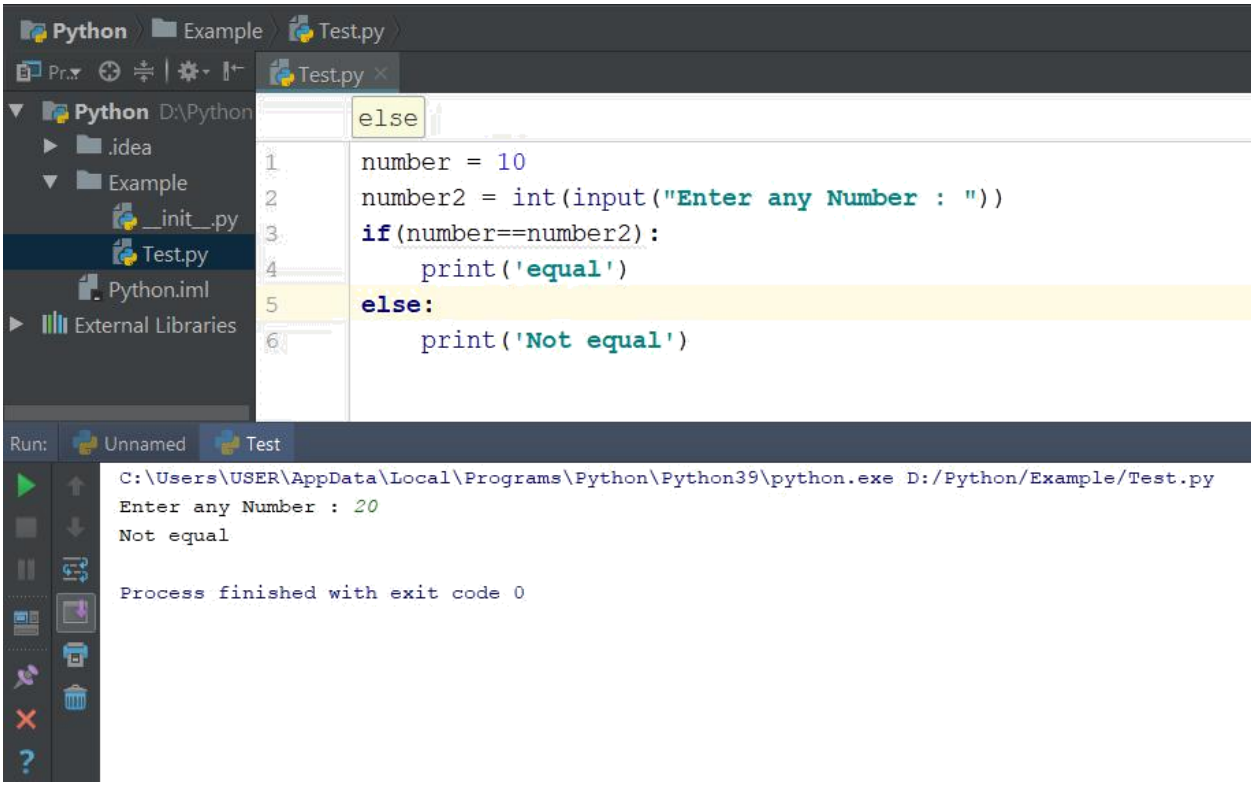




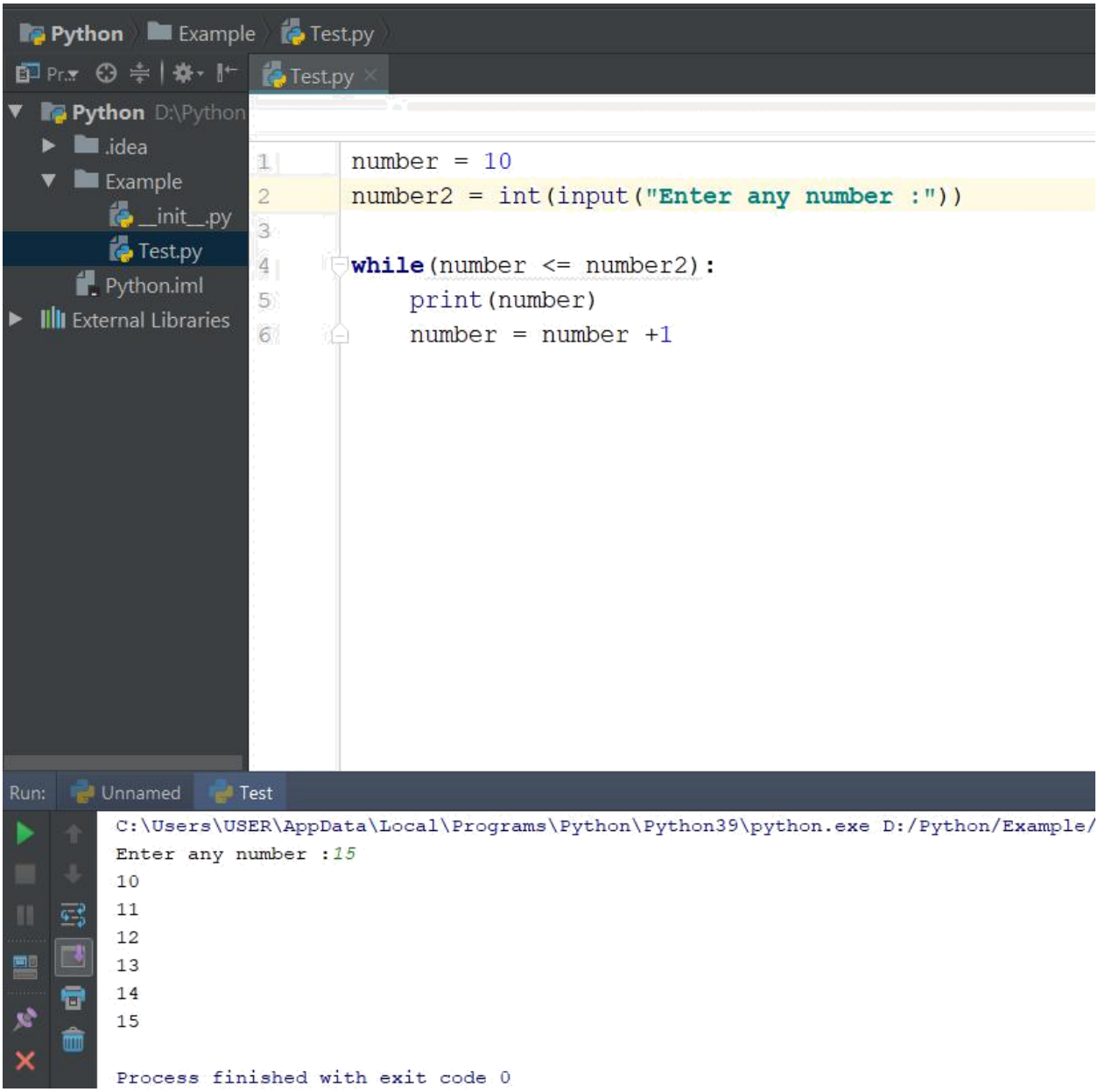
Section 4.2.1: Create and run basic example.



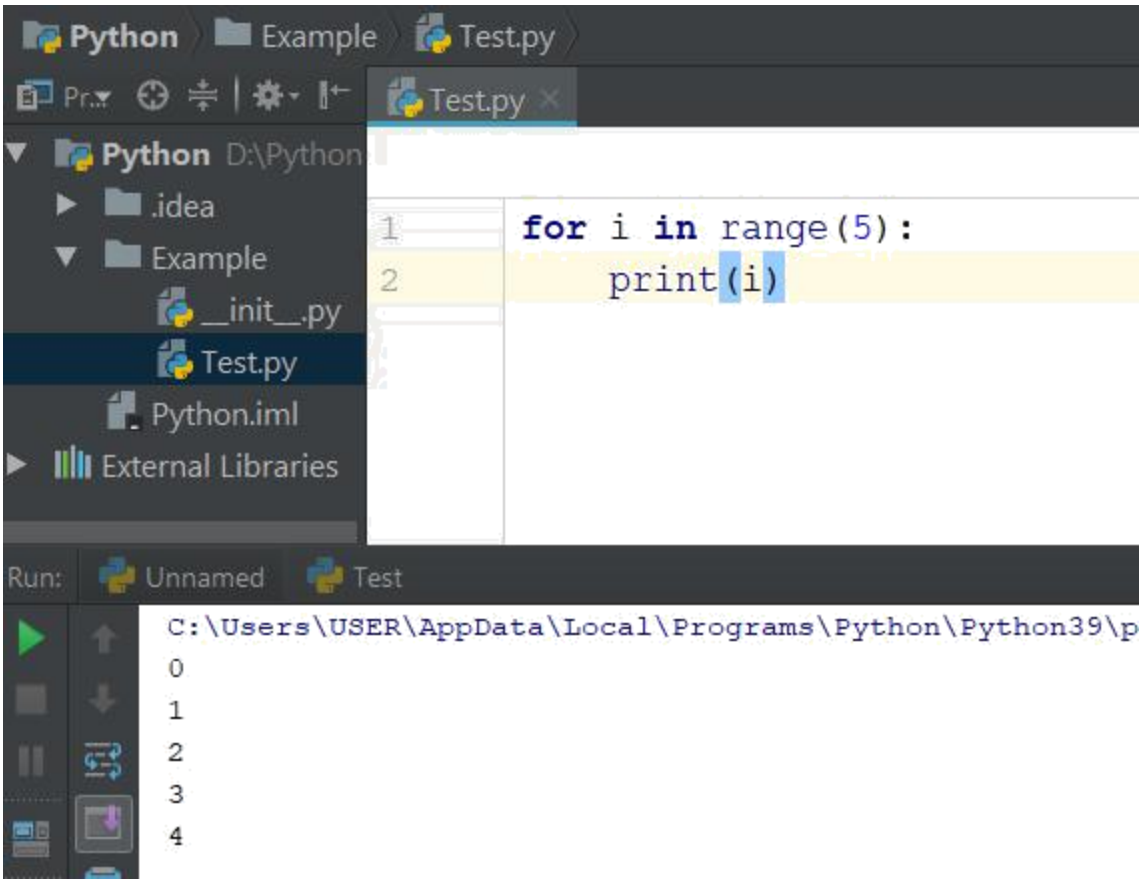
Exercise 4.2.2: The if statement:



Exercise 4.2.3: The while Statement



Exercise 4.2.4: The for Statement



Question 5.1: Explain what is eclipse? And why we use it for programing on python?

Answer:

Eclipse is an integrated development environment (IDE) used in computer programming. It contains a base workspace and an extensible plug-in system for customizing the environment. ... It was one of the first IDEs to run under GNU Classpath and it runs without problems under IcedTea.

For python development under Eclipse you can use the PuDev Plugin which is an open source project. So, we use it for programming on python.

Question 5.2: Explain three main characteristics of python that you test in the lab?

Answer:

Features in Python

There are many features in Python, some of which are discussed below –

1. Easy to code:

Python is a very developer-friendly language which means that anyone and everyone can learn to code it in a couple of hours or days. As compared to other object-oriented programming languages like Java, C, C++, and C#, Python is one of the easiest to learn.

2. Open and Free Source:

Python is an open-source programming language which means that anyone can create and contribute to its development. Python has an online forum where thousands of coders gather daily to improve this language further. Along with this python is free to download and use in any operating system, be it Windows, Mac or Linux.

Question 5.3: Which is the difference between empty module and main module when creating a python script?

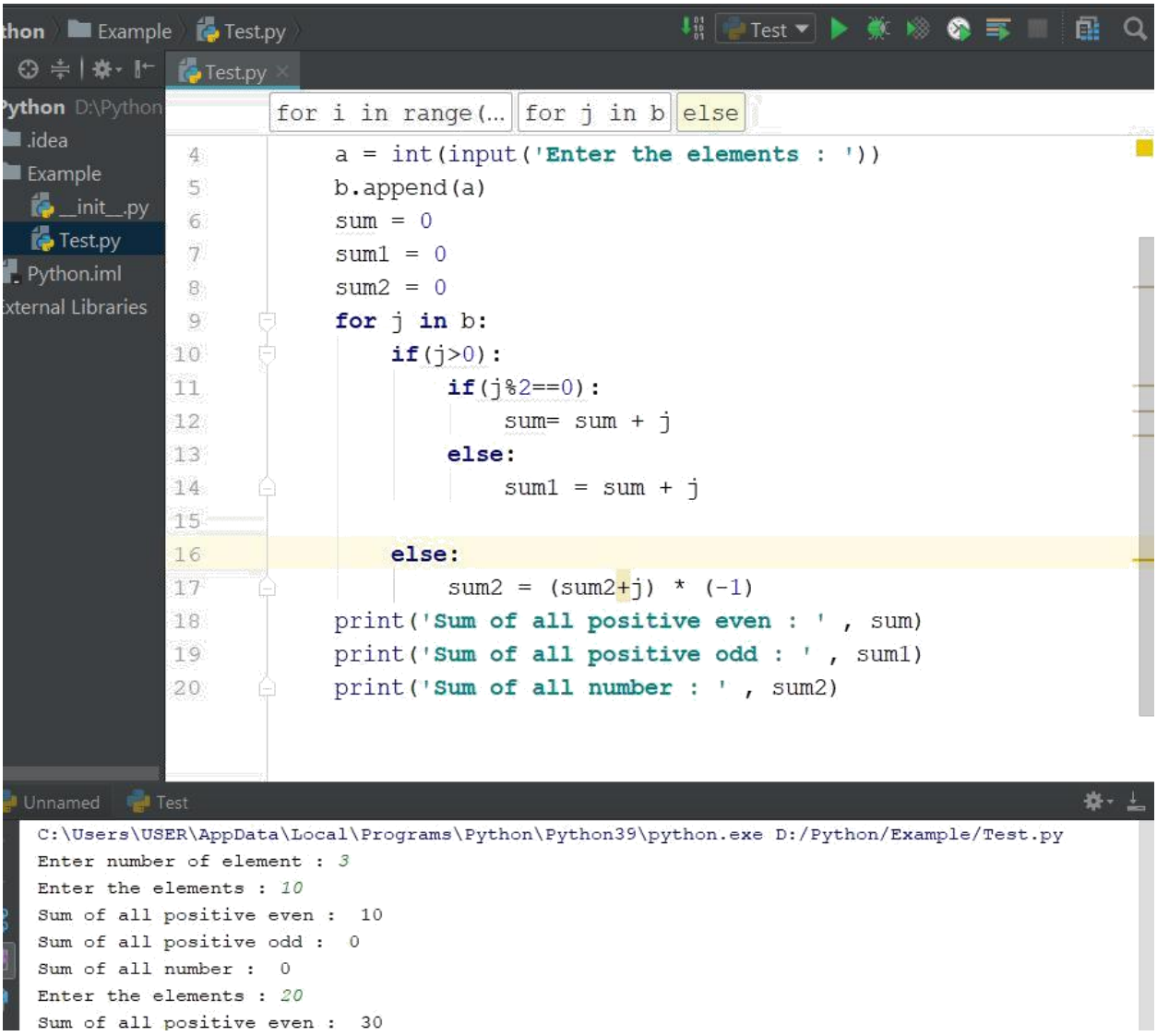
Answer:

A module is a file containing Python code. Python modules can be managed using functions, classes etc.

A module name is the file name with the .py extension. When we have a file called empty.py empty is the module name. The __name__ is a variable that holds the name of the modules being executed called also the main module, has a special name: '__main__'. With this name it can be referenced from the Python code.

Question 5.5: Create a python program that combines at least 4 operators and one statement (if, while or for)

Answer:



Discussion:

In this lab, we can learn setup the python in eclipse, and can execute a python code successfully. 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.