Lab Report No: 04

Lab Report Name: Introduction to Python

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Definition

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, togetherwith its interpreted nature, make it an ideal language for scripting and rapidapplication development in many areas on most platforms**.**

Features or characteristics:

1.Simple
2.Easy to learn
3. Free and Open Source
4.Portable
5.High-Level Language
6.Multi-Platform
7.Interpreted
8.Object Oriented
9. Extensible
10. Embeddable
11. Extensive Libraries

3. Methodology

Section 3.1: Setup of Python Environment

STEP 1: Open Eclipse and setup a correct access to Internet

STEP 2: Installing python environment using Eclipse Graphical Interface1:

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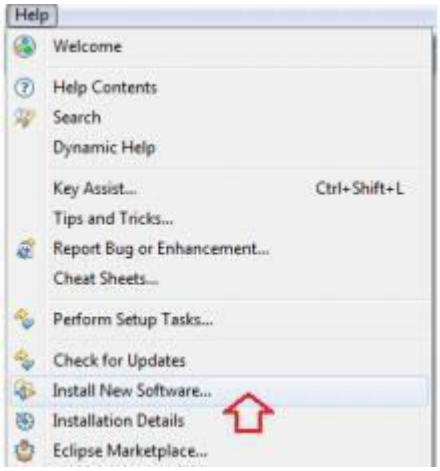
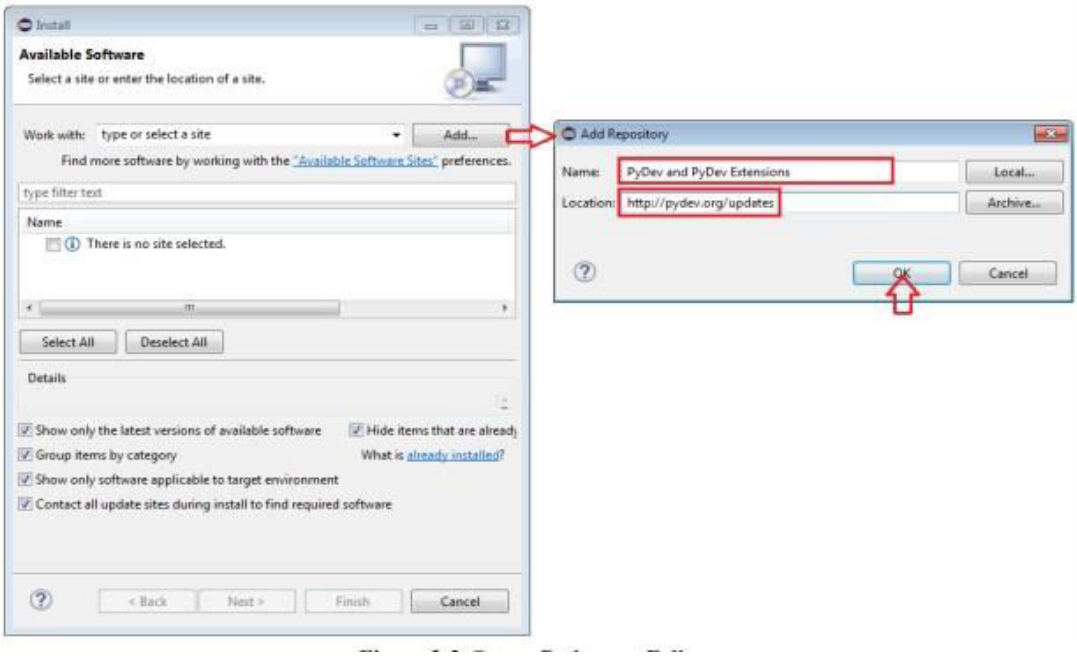
1. To install PyDev and PyDev Extensions using the Eclipse Update Manager, you needto use the Help > Install New Software... menu (note that in older versions, this would be the 'Find and Install' menu) as shown in the following figure:

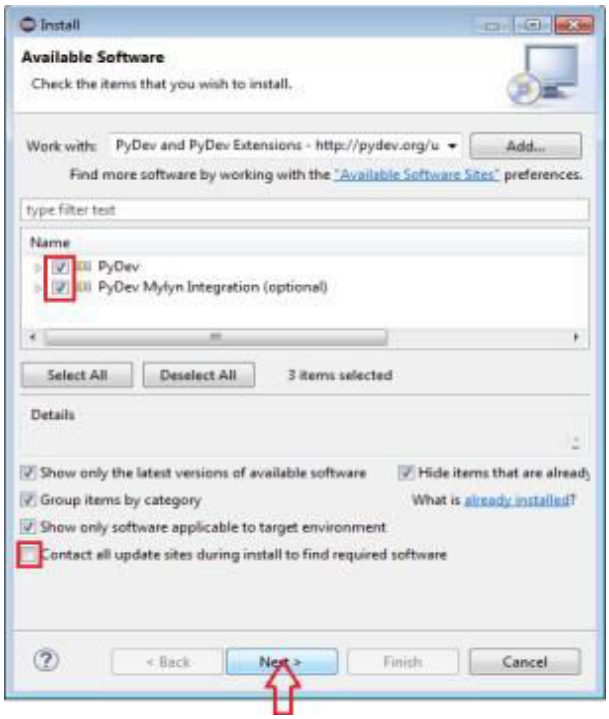


2. In the next screen, add the update site(s) you want to work with (see the figurebelow). The available update sites are (see Figure):

* http://pydev.org/updates

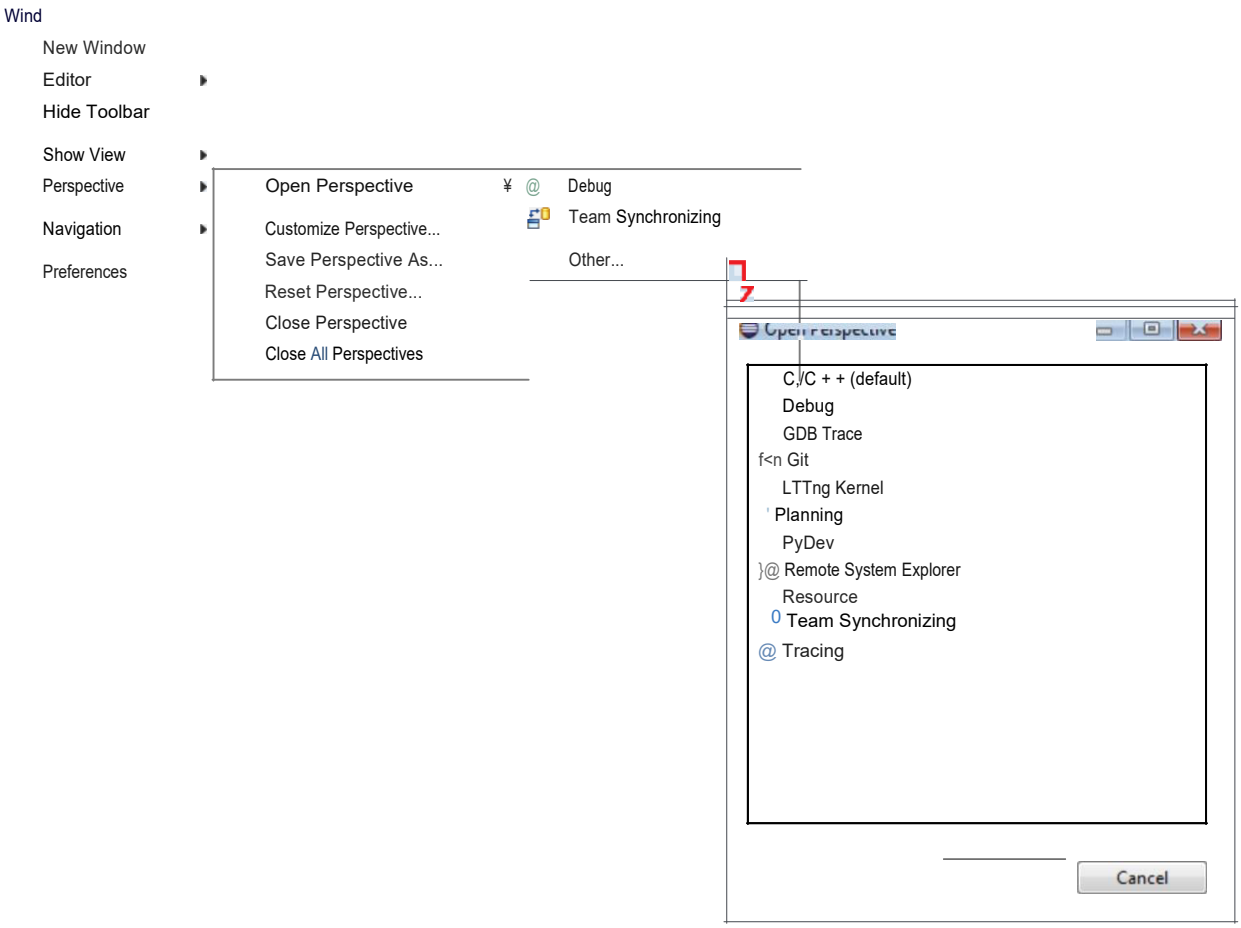


3.After entering the update sites, select the update site you entered or select "All available sites" and add a filter for PyDev, so that it shows the contents of all the update sites that have PyDev, then select what you want to install and click 'Next'



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. After that eclipse will display the graphical interface for python perspective, the main components are (see Figure 8):

- Project space is the section where all your python projects are visualized,
- Project Editor is the section where python scripts can be edited,
- Console allows the visualization of results father running a python script,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New Window
Editor
Hide Toolbar
Show View
Perspective
Navigation
Preferences
Open Perspective
Customize Perspective...
Save Perspective As...
Reset Perspective...
Close Perspective
Close All Perspectives
Debug
Team Synchronizing
Other...
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Debug
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PyDev
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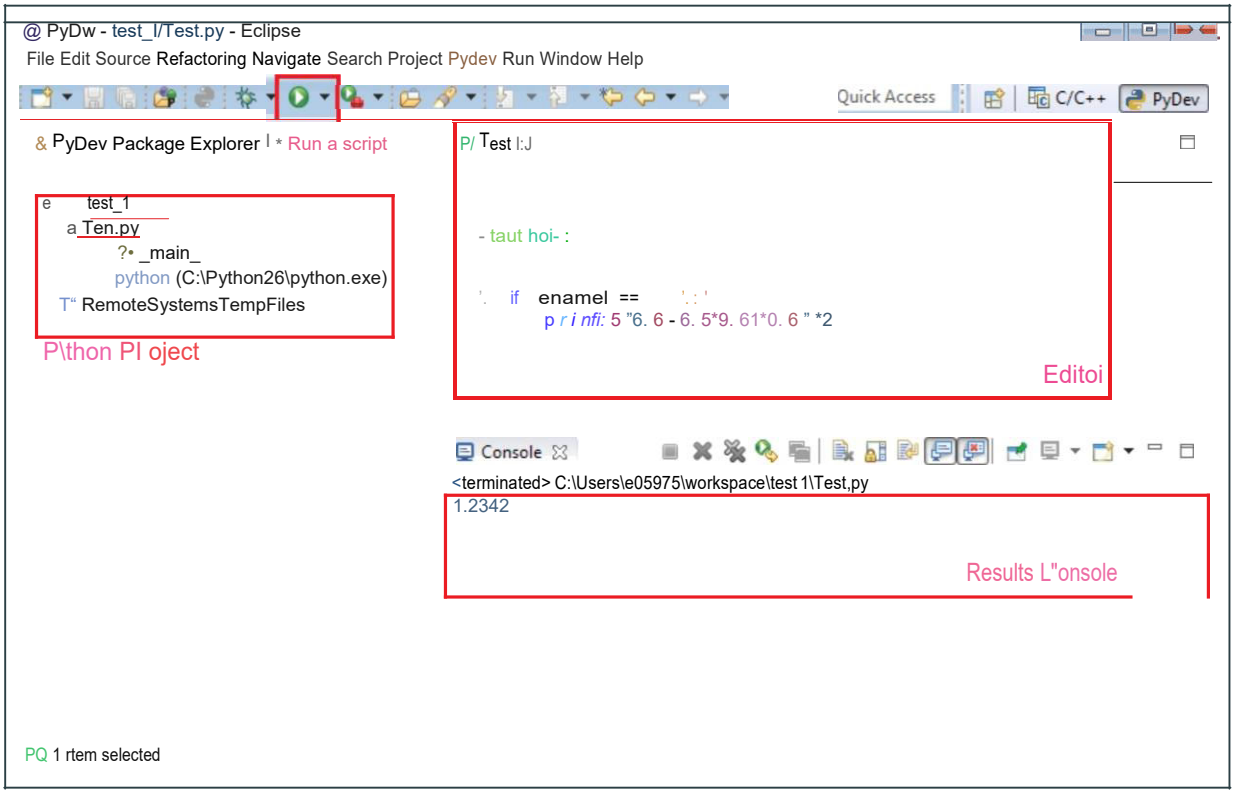
@ Tracing
Cancel


@ PyDw - test_I/Test.py - Eclipse
File Edit Source Refactoring Navigate Search Project Pydev Run Window Help
Quick Access
C/C++
PyDev
& PyDev Package Explorer I * Run a script
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a Ten.py
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Editoi
Console
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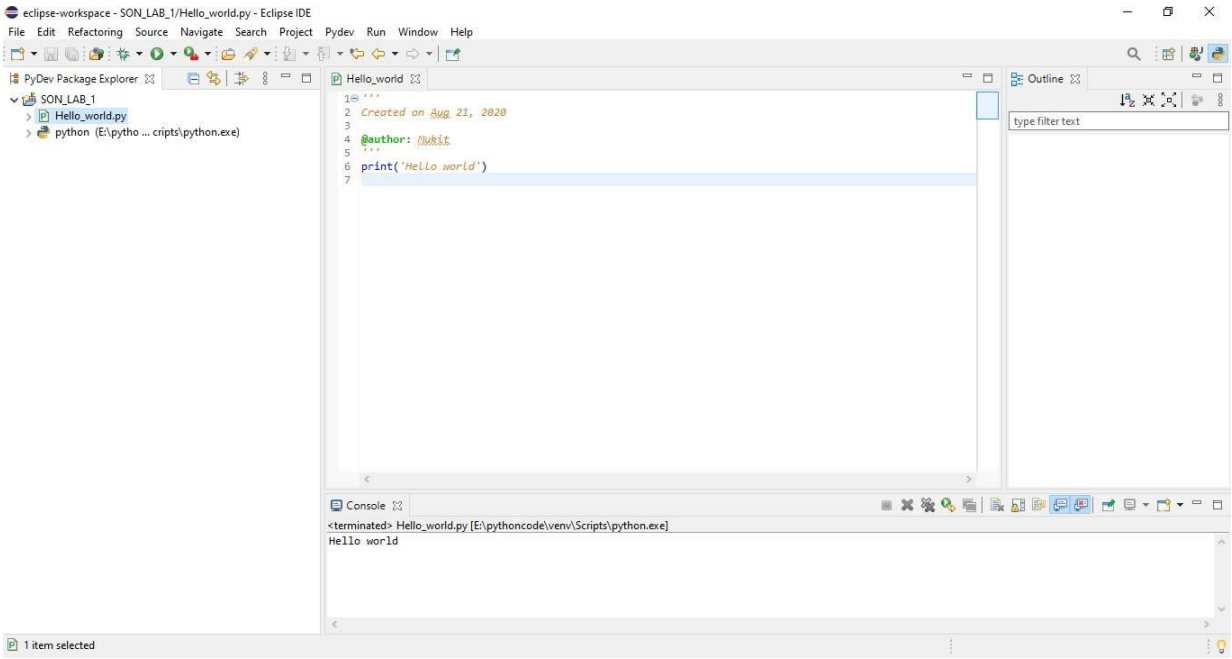
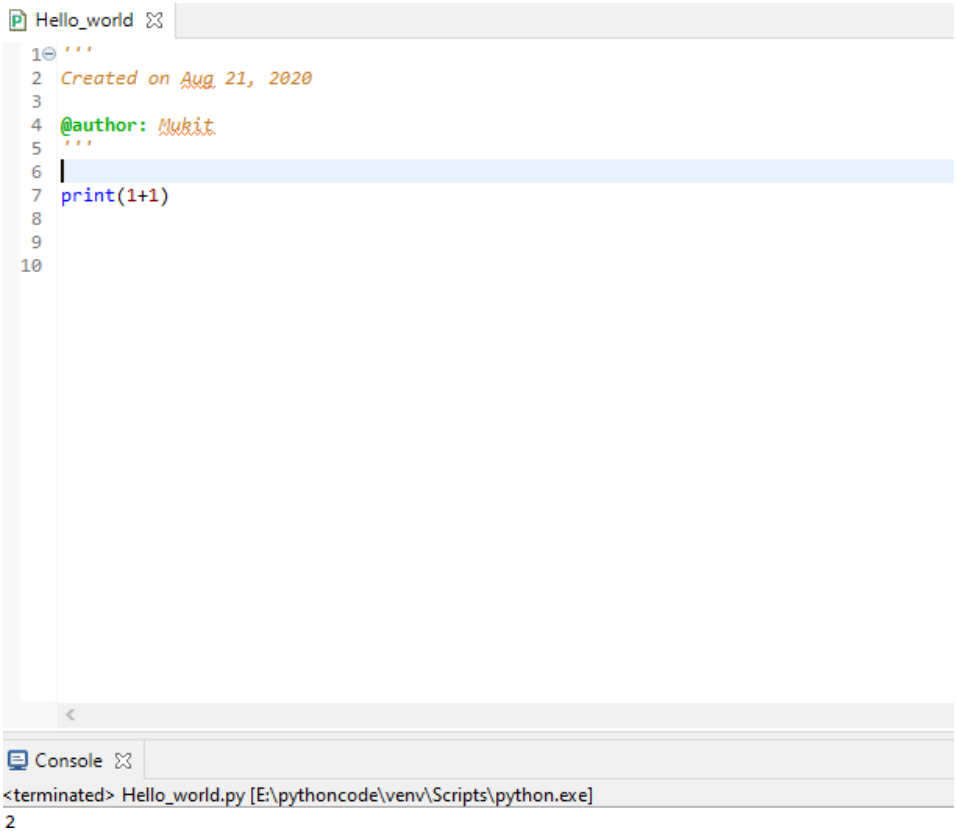
1.2342
Results L"onsole
PQ 1 rtem selected

Exercise:

4.1.2 :Print Hello world



4.1.3 compute 1+1



4.1.4.Type in programe test

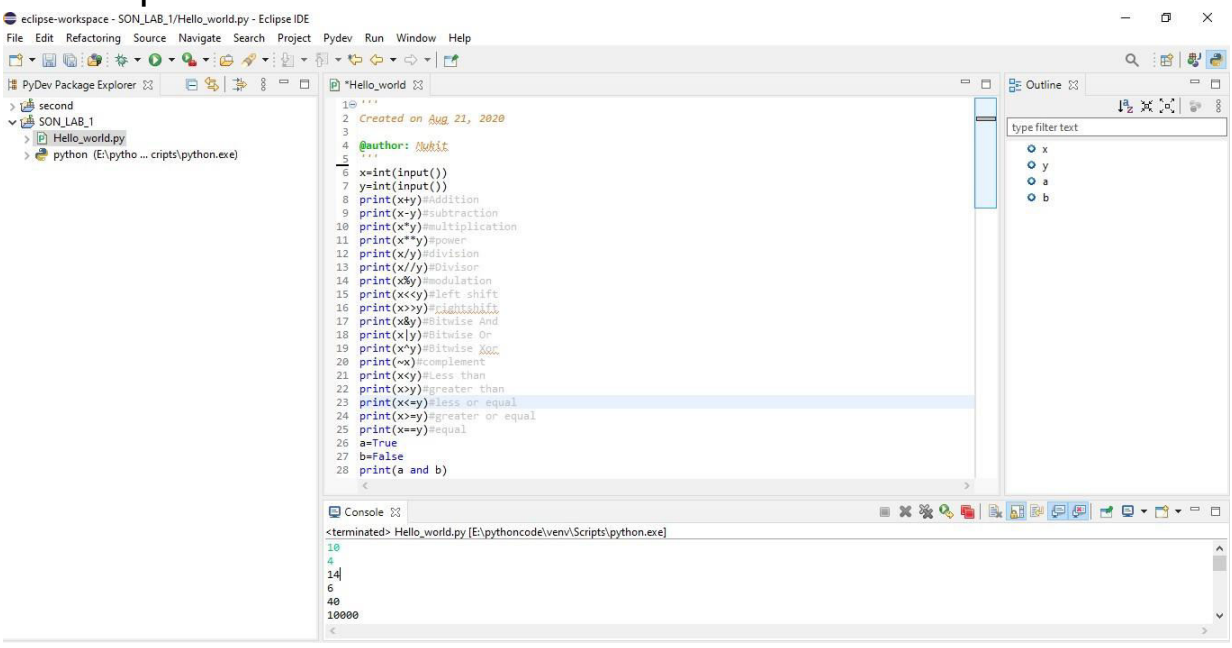
```
'''
Created on Aug 21, 2020

@author: Mkit
'''

h = 5.0 # height
r = 1.5 # radius
pi=3.1416
if __name__ == '__main__':
    area_parallelogram = h*r
    print ('The area of the parallelogram is %.3f' % area_parallelogram)
    area_square = h**2
    print ('The area of the square is %g' % area_square)
    area_circle = pi*r**2
    print ('The area of the circle is %.3f' % area_circle)
    volume_cone = 1.0/3*pi*r**2*h
    print ('The volume of the cone is %.3f' % volume_cone)
```

Console

<terminated> Hello_world.py [E:\pythoncode\venv\Scripts\python.exe]

```
The area of the parallelogram is 7.500
The area of the square is 25
The area of the circle is 7.069
The volume of the cone is 11.781
```

4.2.1 Expression



4.2.2 IF Statement:

Hello_world

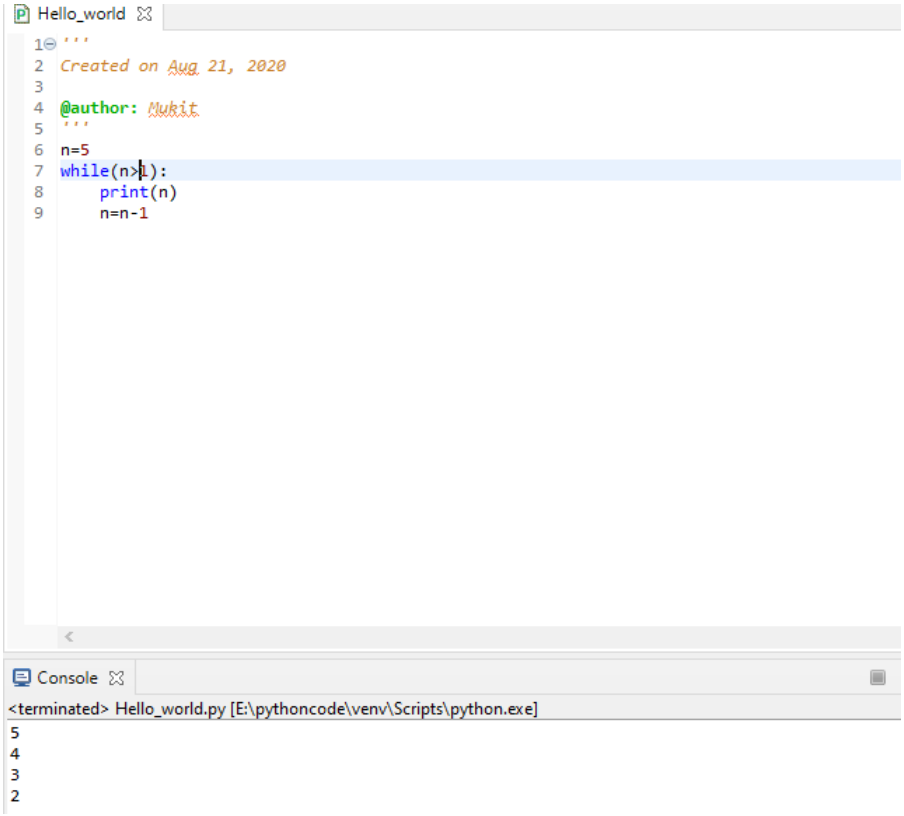
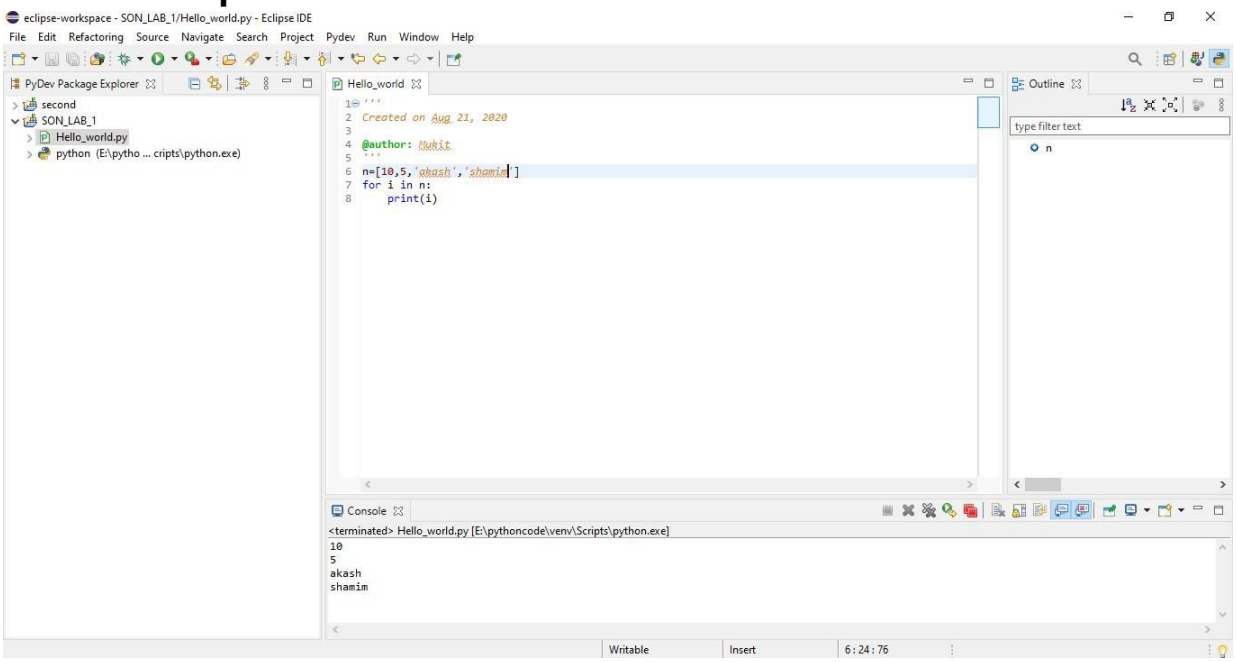
```
'''
Created on Aug 21, 2020

@author: Mukit
'''
n=5
if(n<4):
    print(" less han four")
else:
    print("greater than four")

```

Console

<terminated> Hello_world.py [E:\pythoncode\venv\Scripts\python.exe]

```
greater than four
```

4.2.3 While Loop



4.2.4 for loop