Lab Report No : 04

Report Name : Introduction to Python

Group Member : MD.AL-MAMUN (IT-17012)
Monir John Rakib (IT-17006)

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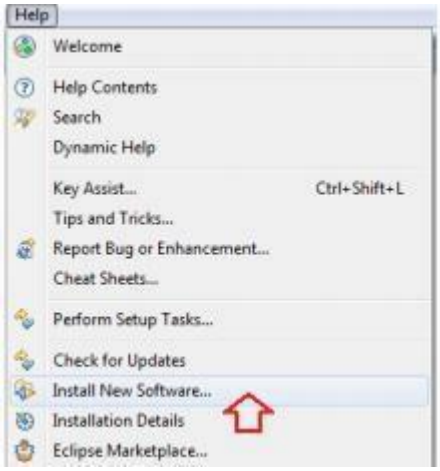
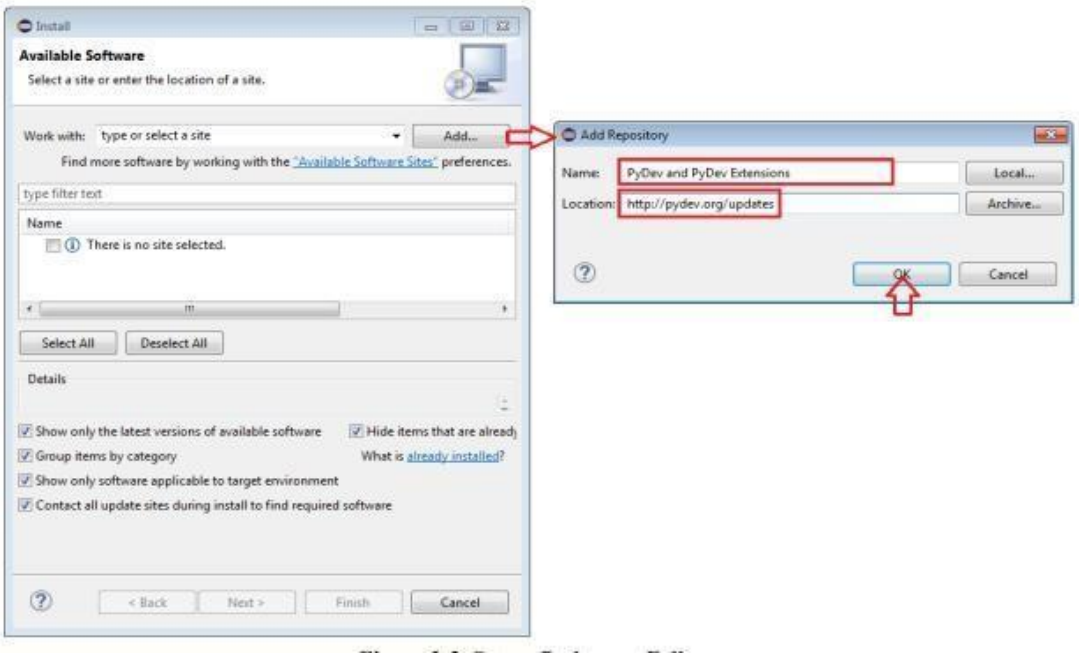
1. To install PyDev and PyDev Extensions using the Eclipse Update Manager, you needto use the Help > Install New Software... menu (note that in older versions, this would be the 'Find and Install' menu) as shown in the following figure:



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):

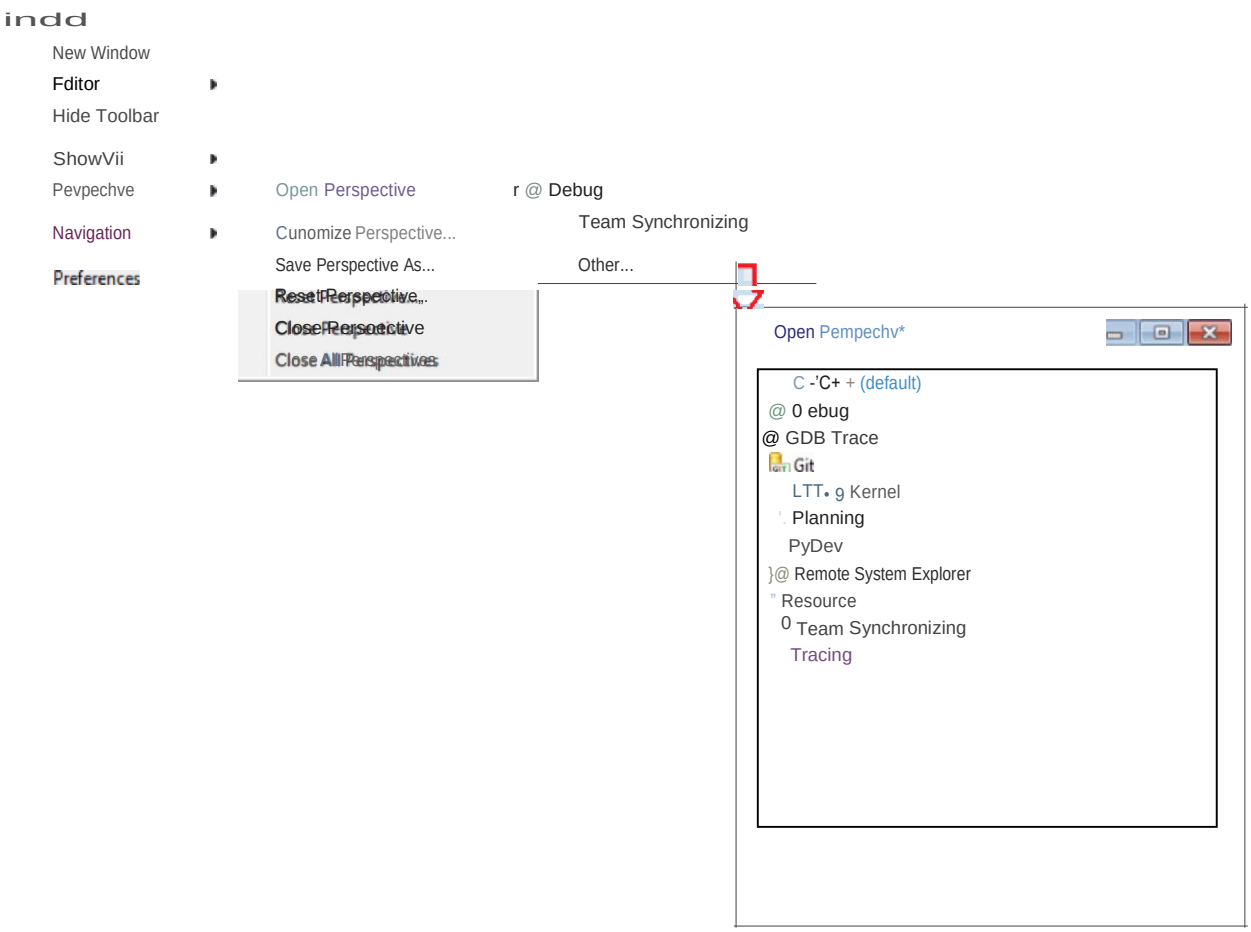
* http://pydev.org/updates

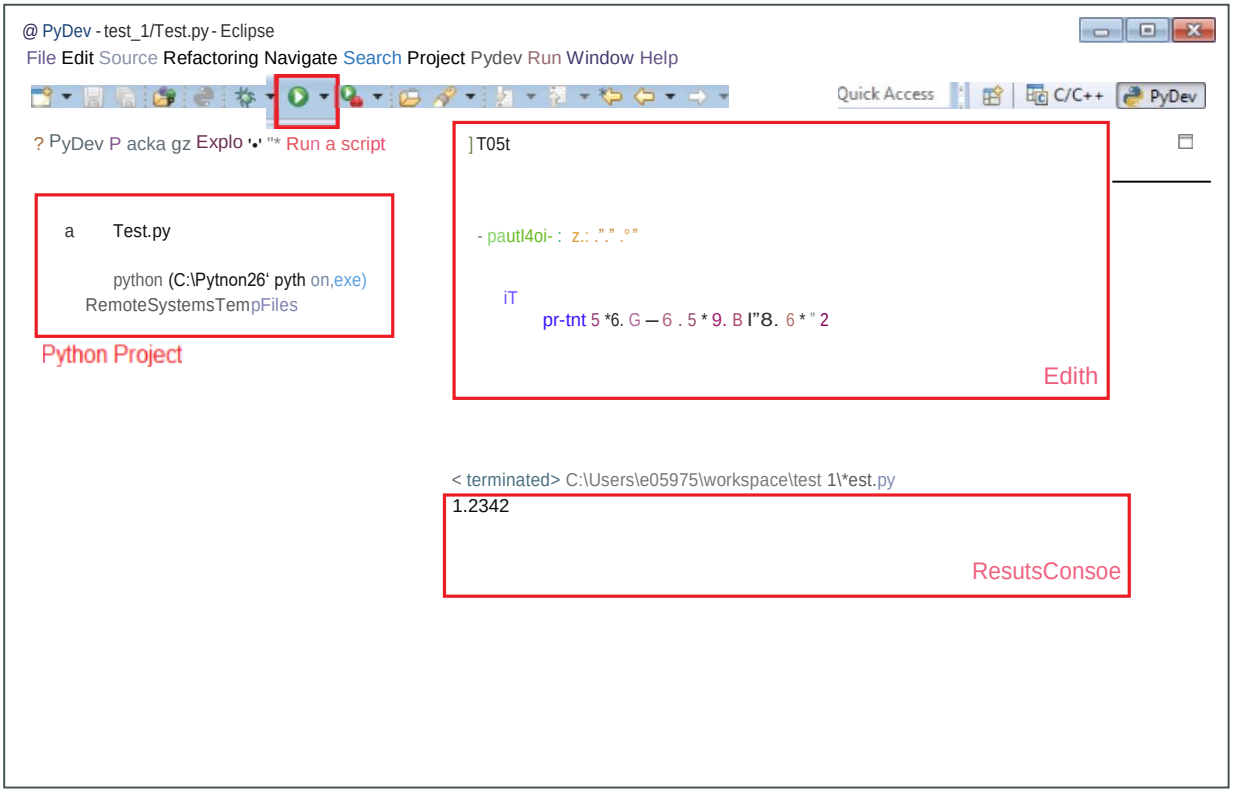


3. After entering the update sites, select the update site you entered or select "All available sites" and add a filter for PyDev, so that it shows the contents of all the update sites that have PyDev, then select what you want to install and click 'Next'

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,


indd
New Window
Fditor
Hide Toolbar
ShowVii
Pevpechve
Navigation
Preferences
Open Perspective
Cunomize Perspective...
Save Perspective As...
Reset Perspective...
Close Perspective
Close All Perspectives
r @ Debug
Team Synchronizing
Other...
Open Pempechv*
C -'C+ + (default)
@ 0 ebug
@ GDB Trace
Git
LTT. g Kernel
Planning
PyDev
}@ Remote System Explorer
Resource
0 Team Synchronizing
Tracing


@ PyDev - test_1/Test.py - Eclipse
File Edit Source Refactoring Navigate Search Project Pydev Run Window Help
Quick Access
C/C++
PyDev
? PyDev P acka gz Explo Run a script
a Test.py
python (C:\Pytnon26' pyth on,exe)
RemoteSystemsTempFiles
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] T05t
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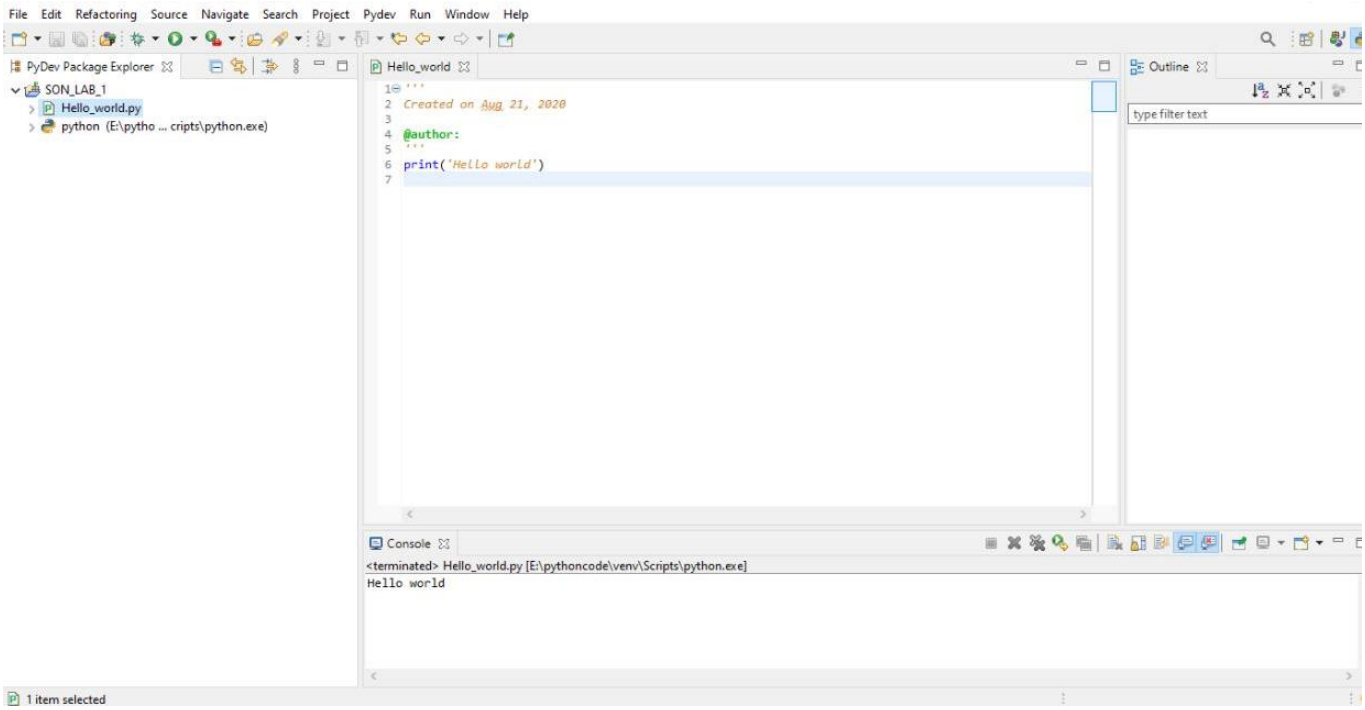
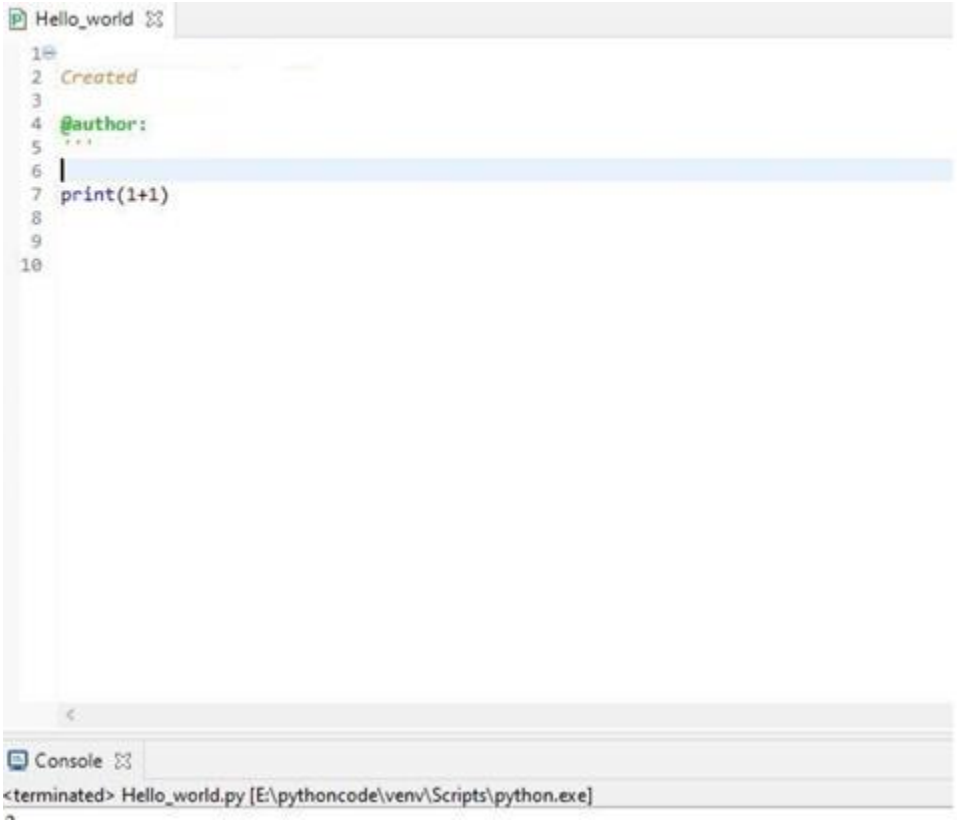
< terminated> C:\Users\e05975\workspace\test 1*est.py
1.2342
ResutsConsoe

Exercise:

4.1.2 :Print Hello world



4.1.3 compute 1+1



4.1.4.Type in programe test

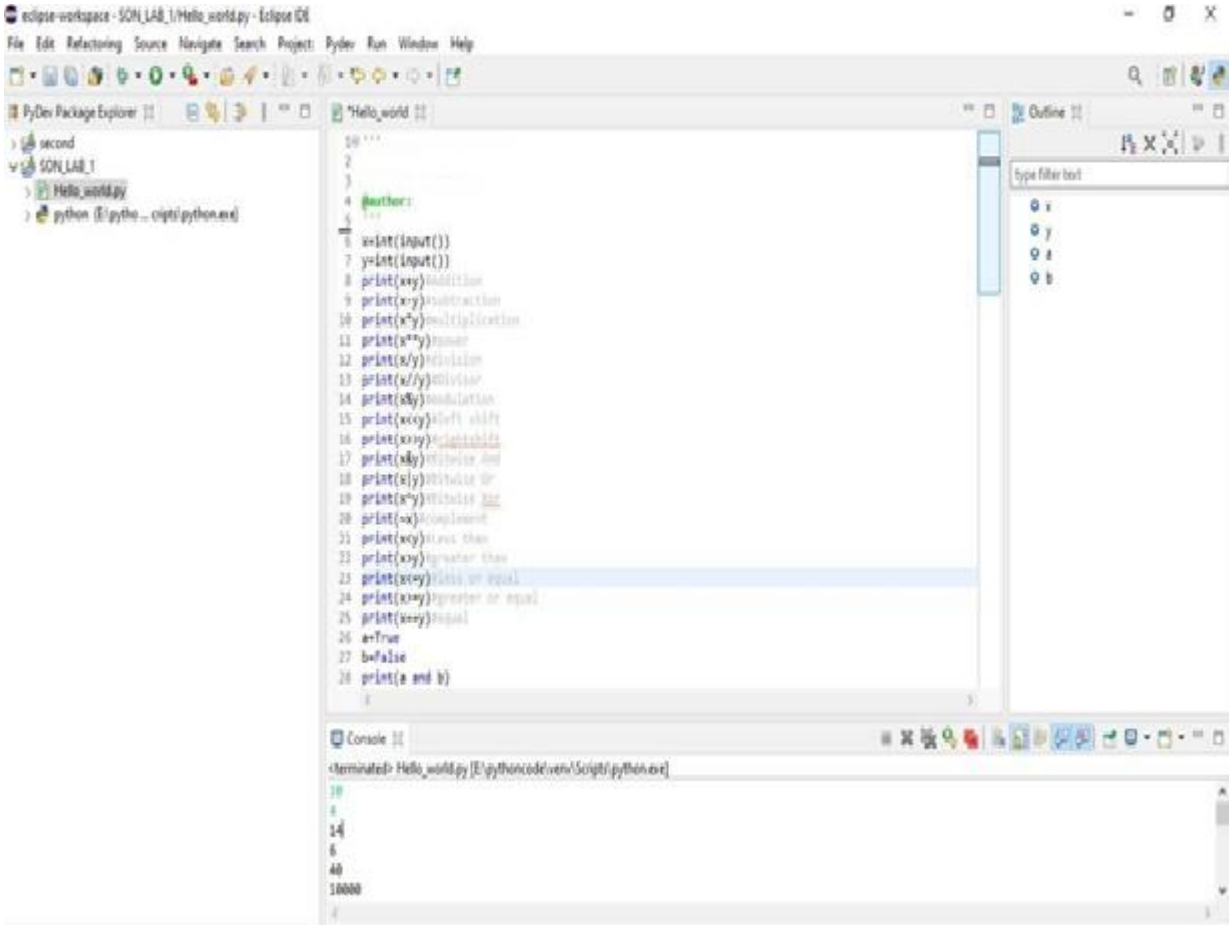
```
'''


@author:
'''

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

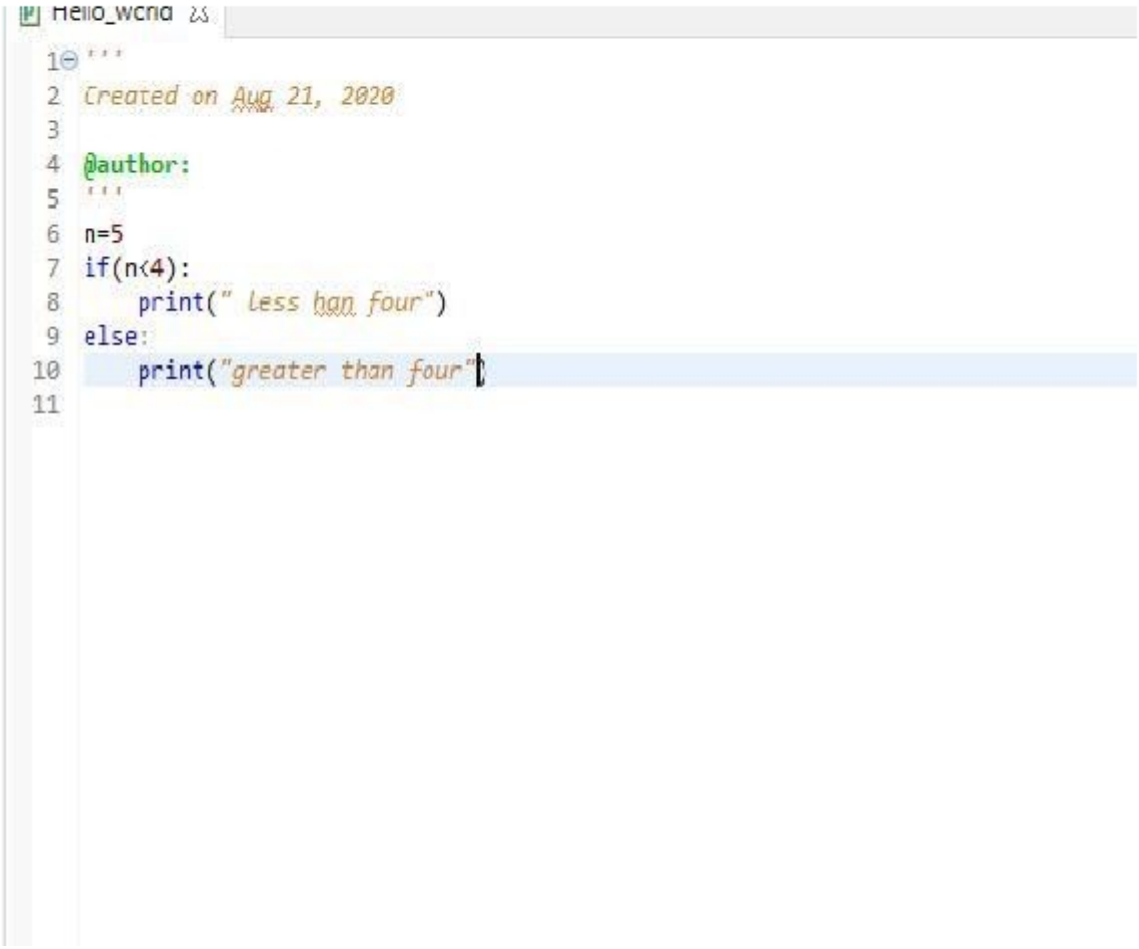
<terminated> Hello_world.py [E:\pythoncode\venv\Scripts\python.exe]

```
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
```

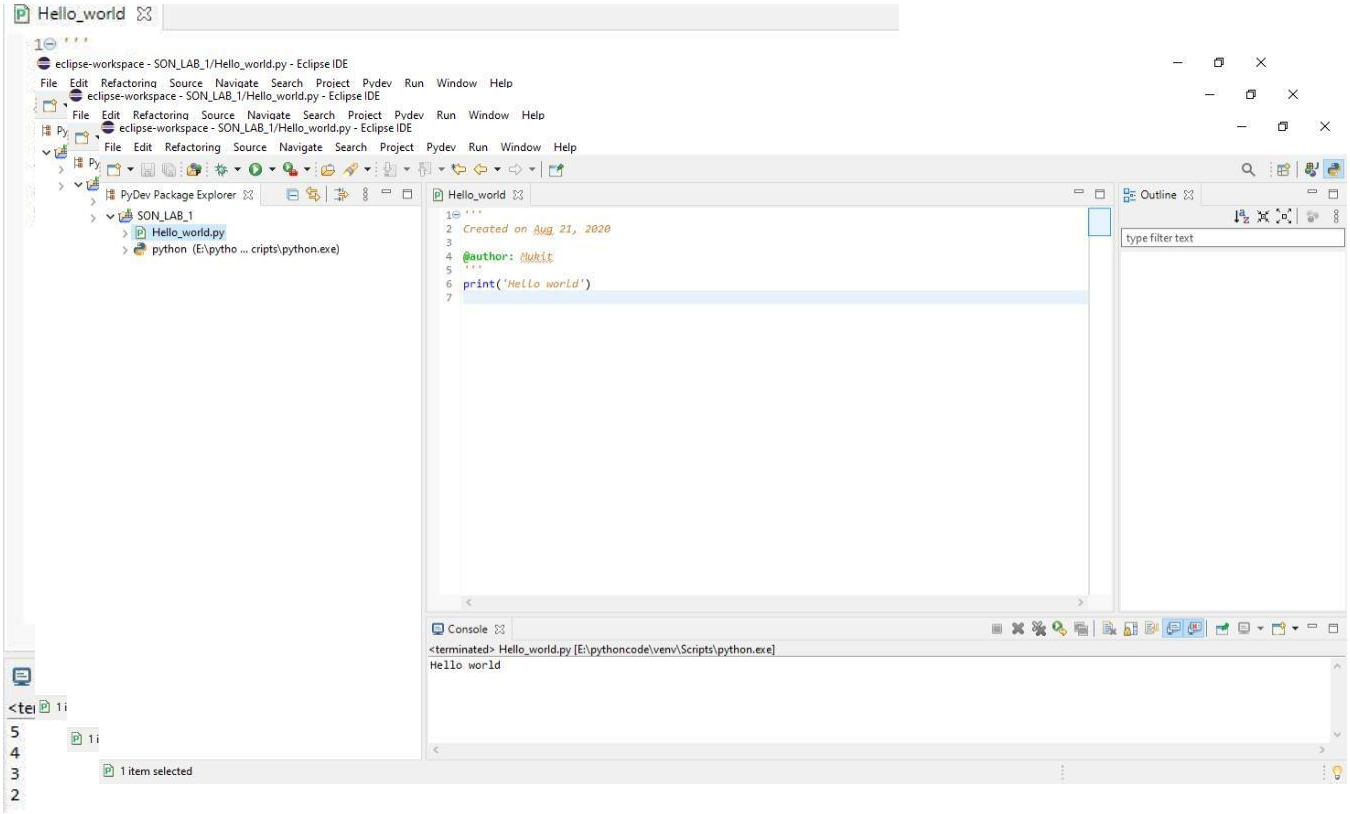
4.2.1Expression


eclipse-workspace - SON_LAB_1/Hello_world.py - Eclipse IDE
File Edit Refactoring Source Navigate Search Project PyDev Run Window Help
PyDev Package Explorer
second
SON_LAB_1
Hello_world.py
python (E:\pytho ... cipts\python.exe)
*Hello_world
'''
@author:
'''
x=int(input())
y=int(input())
print(x+y)#addition
print(x-y)#subtraction
print(x*y)#multiplication
print(x**y)#power
print(x/y)#division
print(x//y)#divisor
print(x%y)#modulation
print(x<<y)#left shift
print(x>>y)#rightshift
print(x&y)#bitwise and
print(x|y)#bitwise or
print(x^y)#bitwise xor
print(~x)#complement
print(x<y)#x<y is true
print(x>y)#greater than
print(x<=y)#x<= or equal
print(x>=y)#greater or equal
print(x==y)#equal
a=True
b=False
print(a and b)
Outline
type filter text
x
y
a
b
Console
<terminated> Hello_world.py [E:\pythoncode\venv\Scripts\python.exe]
10
4
14
6
40
10000

4.2.1 IF Statement:



4.2.2 While Loop



4.2.3 for loop