Subject:	**Python Lab. (ITL404)**		
Class:	**SE IT / Semester – IV (Rev-2016) / Academic year: 2017-18**		
Name of Student:	**Kazi Jawwad A Rahim**		
Roll No:	**28**	**Date of performance (DOP) :**	
Assignment/Experiment No:	**10**	**Date of checking (DOC) :**	
Title: Program to demonstrate creating and importing Python modules.			
Marks:		**Teacher's Signature:**	

1. Aim: To understand how to create and use Python modules and packages it contain.

2. Prerequisites:

1. Basics of Python programming

3. Hardware Requirements:

1. PC with minimum 2GB RAM

4. Software Requirements:

1. Windows / Linux OS.
2. Python 3.6 or higher

5. Learning Objectives:

1. To understand how to create Python modules and packages in current working directory.
2. To understand how to create packages in current directory and other directory.
3. To understand the *system environment variable* PYTHONPATH.

6. Learning Objectives Applicable: LO 3

7. Program Outcomes Applicable: PO5, PO7, PO9, PSO2

8. Program Education Objectives Applicable: PEO1, PEO5, PEO6

SOURCE CODE:

mymodule.py

```
class Rect:
   def __init__(self,l=0,w=0):
      self.l=l
      self.w=w
   def __add__(self,j):
      return Rect(self.l+j.l,self.w+j.w)
   def __eq__(self,k):
      if(self.l==k.l and self.w==k.w):
         return True
      else:
         return False
   def setLength(self,l):
      self.l=l
   def setWidth(self,w):
      self.w=w
   def area(self):
      return (self.l*self.w)
   def perimeter(self):
      return (2*(self.l+self.w))
def mymessage():
   print("Message from mymodule")
```

mymodule1.py

```
def area(l,w):
   return l*w
def interest(n,p,r):
   return n*p*r
```

SOURCE CODE:

```
from mymodule import *
window=Rect(2,7)
print("Area of window= ",window.area())
mymessage()

from mypackage.mysubpackage.mymodule1 import *
print("Simple Interest= ",interest(10,100,8))
```

OUTPUT:

```
Area of window=  14
Message from mymodule
Simple Interest=  8000
```

Learning Outcomes Achieved:

1. Understood how to create Python modules and packages in current working directory.
2. Understood how to create packages in current directory and other directory.
3. Understood the *system environment variable* PYTHONPATH

Conclusion:

Thus, we have studied creating and importing Python modules.

13. Experiment/Assignment Evaluation

SR	Parameters	Weight	Excellent	Good	Average	Poor	Not as per requirement
		Scale Factor ->	5	4	3	2	0
1	Technical Understanding	25					
2	Performance / Execution	25					
3	Question Answers	20					
4	Punctuality	20					
5	Presentation	10					
	Total out of 40 --> #(to be converted as per term-work evaluation applicable to the subject)		**∑ (Weight * Scale Factor)*4/50 = …….. / 40**				

References:

[1] James Payne, "Beginning Python using Python 2.6 and Python 3.1", Wrox Publications.

[2] Dr. R. Nageswara Rao, "Core Python Programming", Dreamtech Press, Wiley Publications.

[3] Charles R. Severance "Python for Everybody: Exploring Data in Python 3"

Viva Questions

1. What is Python module?
2. What does Python module contain?
3. What is Python package and sub-package?
4. Can I create Python modules and packages in other directory than my current working directory?
5. Suppose you have decided to create a Python module that contains classes, functions, and data related to Image processing, tell the steps involved from its development, sale , and use on the client's system.