

BVB'S Sardar Patel College of Engineering

Report: Workshop on "Beginners Guide to Python"

Department of Electrical Engineering had organized a two-day workshop for students on "Beginners Guide to Python" on 1st and 2nd September 2018 under TEQIP III

The workshop was attended by 38 students (Second year electrical) and the instructor for the workshop was Narpat H. Suthar.



After the inauguration, the content flow, objectives and outcomes of the workshop were discussed. In the first session of day one, history of Python programming language, set up of Python Programming environment for Windows, Variables and Data types, Operations in Python were explained.

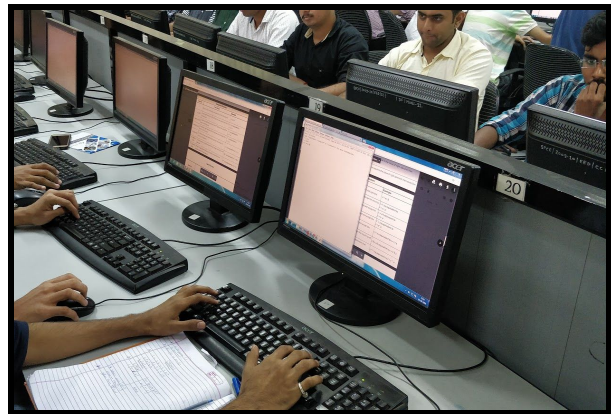
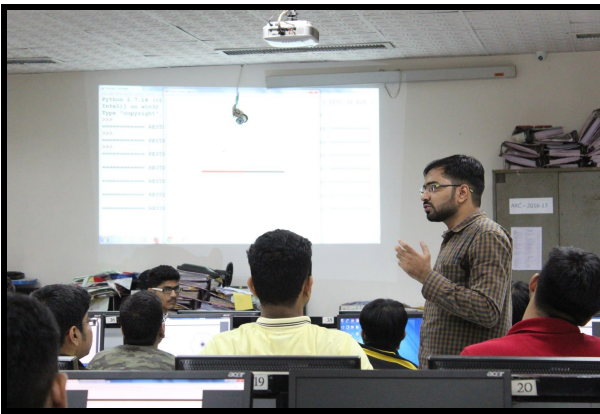
In the second session of day one, Inbuilt Data Structures in Python and Some complicated concepts were discussed which will help students while developing their own code and further, this may help them while seeking placement in software domain.

In the first session of day two, Functions were explained. In addition, a few coding challenges were given to students. An External Python Library 'Turtle' was

demonstrated. The objective behind the introduction of Turtle was to analyze some advanced in-depth concepts in an interactive manner.

After explaining turtle library, how to make our own library and package in python were described to the students.

In the succeeding session, one of the most important concepts in Python, Object Oriented Programming was studied in detail. Classes and Objects were defined by relating these to real life examples.

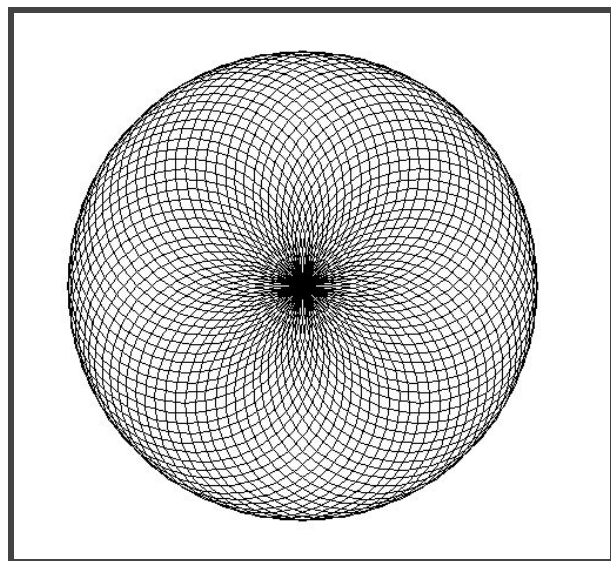


```
import turtle

my_turtle = turtle.Turtle()
screen = turtle.Screen()
my_turtle.speed(100)
#

for x in range(300):
    my_turtle.circle(100)
    my_turtle.left(5)
#

screen.exitonclick()
```

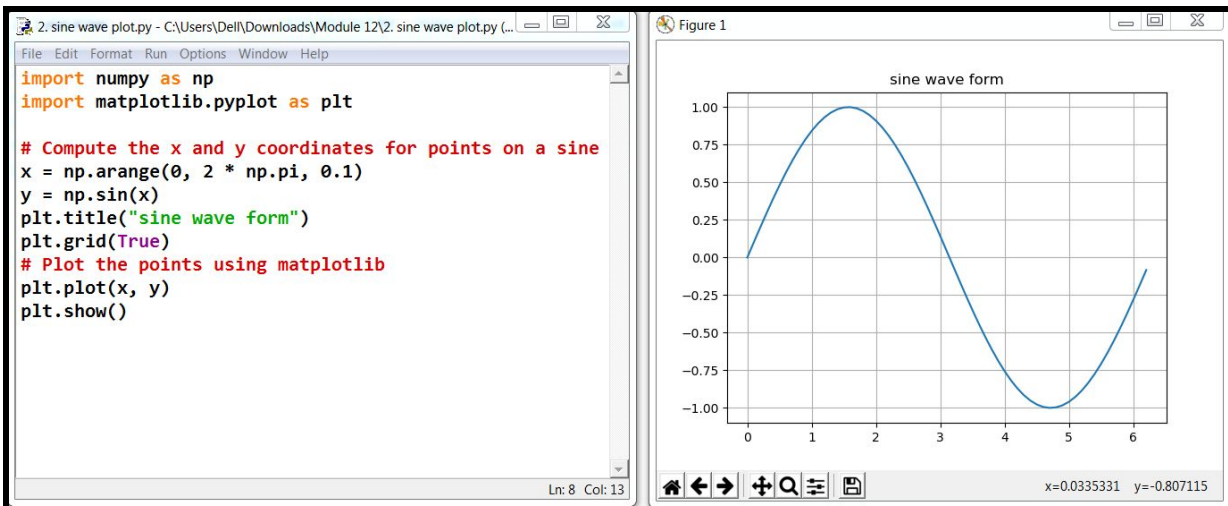


A code example to make 300 circles at an angle of 5 degree with the Turtle library

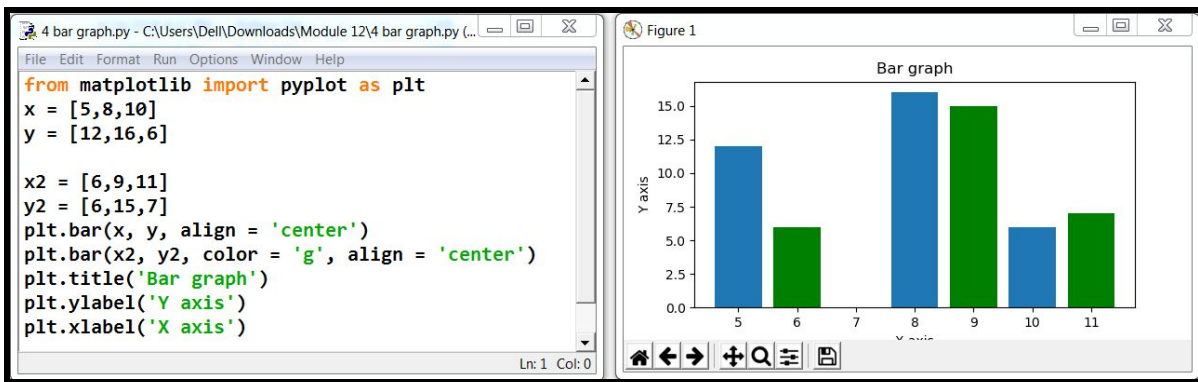
After covering all the basic and advanced concepts of Python Programming Language, two useful open source libraries Numpy and Matplotlib were explained, which are essential for advanced mathematical operations, representing mathematical functions and data in different ways.



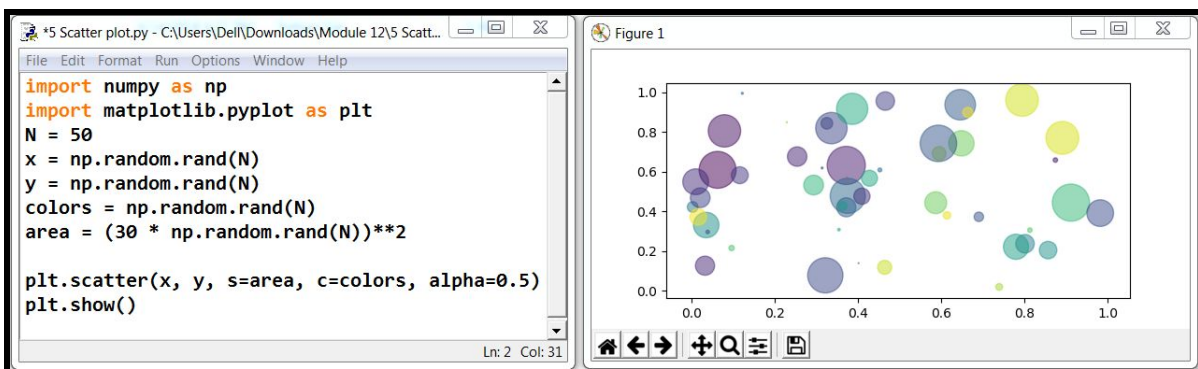
Demonstration of raspberry pi 3



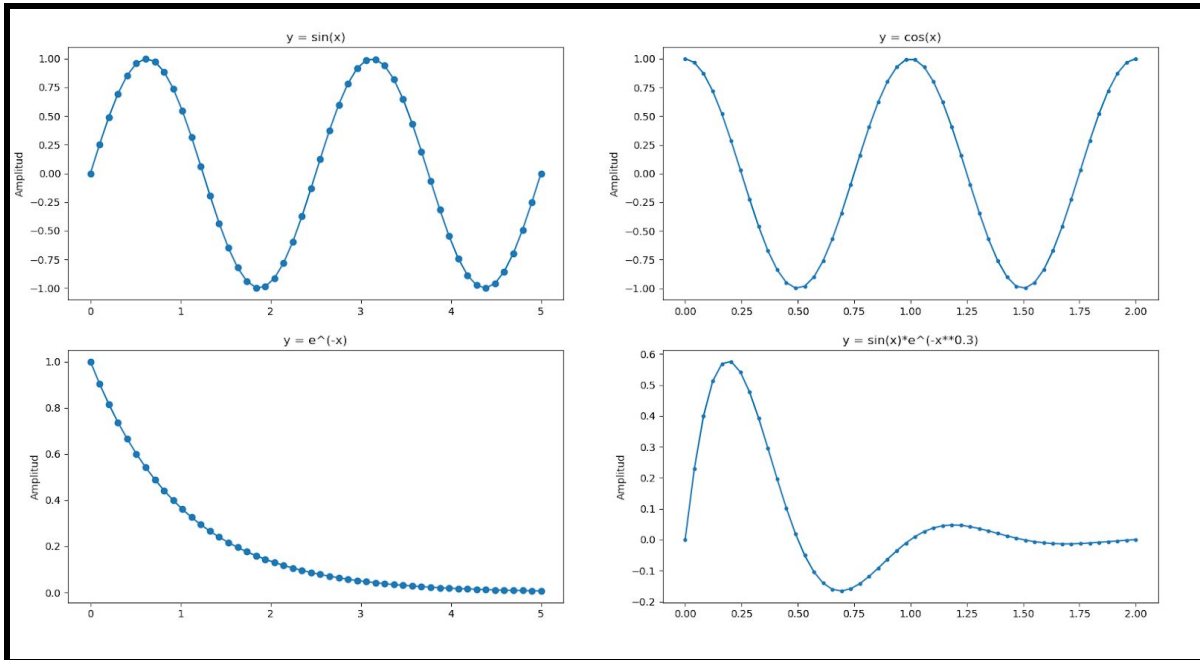
Sine wave in matplotlib



Representation of bar graph in matplotlib



Scatter plot



Matplotlib subplot with different mathematical functions

After learning all the aforementioned concepts, students will be able to successfully apply this knowledge of Python Programming Language in their academic projects, Image Processing, Internet of Things(IoT) and use Python open source libraries.

The two-day “Beginners Guide to Python” program ended on a successful note, along with an encouraging feedback from the students.