output:

3.14159265358979 3

2.718281828459045

0.7071067811865476

0.7071067811865476

0.999999999999

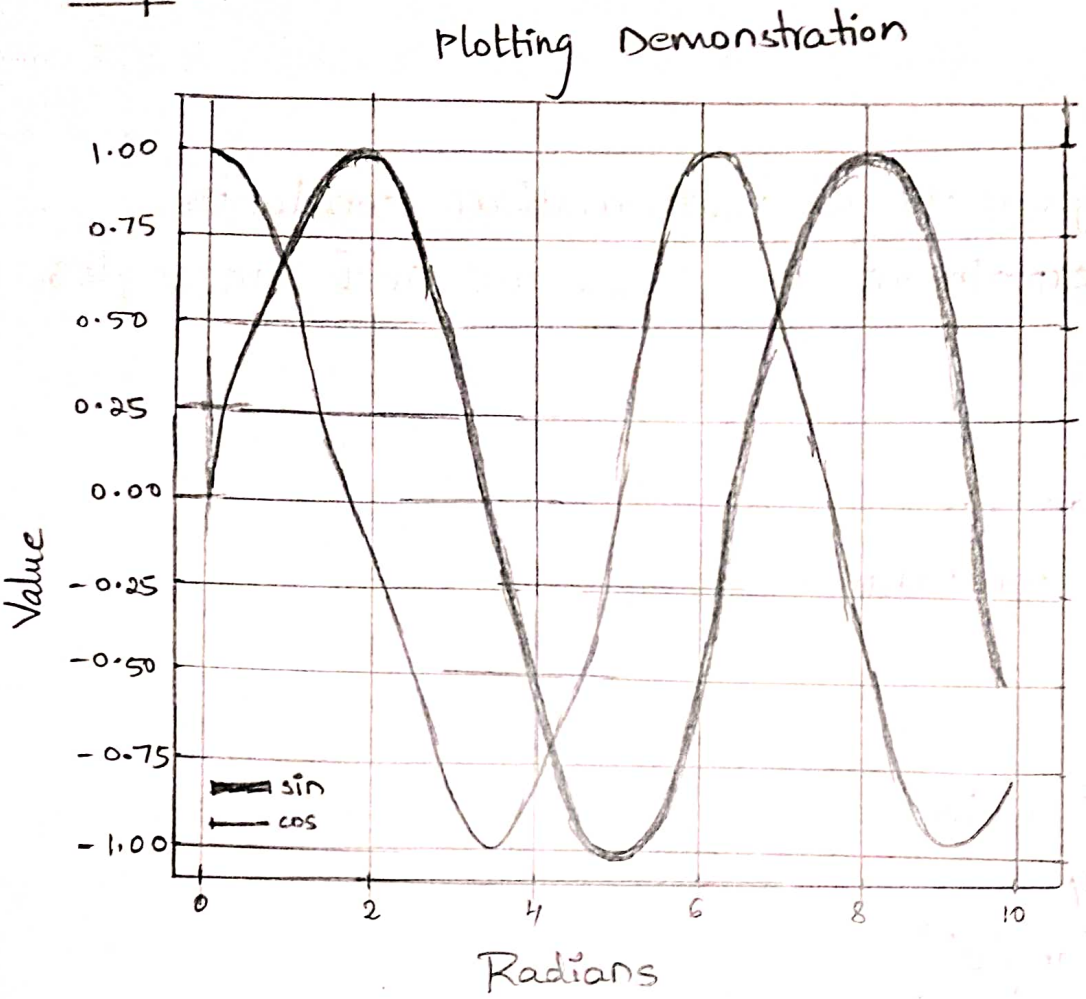
Example programs:

1) Write a python program to get mathematical constants from numpy and experiment on sine, cos and tan angles

source code:

```
import numpy as np
# mathematical constants
    print (np.pi)
    print (np.e)
# trigonometric functions
    angle = np.pi/4
    print (np.sin(angle))
    print (np.cos(angle))
    Print (np.tan(angle))
```

Output:


Plotting Demonstration
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50
-0.75
-1.00
Value
sin
cos
0
2
4
6
8
10
Radians

2) Write a python program to use matplotlib and sine and cos waves

source code:

```
import matplotlib.pylot as plt
import numpy as np

x = np.linspace(0,10)
y = np.sin(x)
z = np.cos(x)
plt.plot(x, y, 'b', x, z, 'r')
plt.xlabel('Radians');
plt.ylabel('Value');
plt.title('Plotting Demonstration')
plt.legend(['sin', 'cos'])
plt.grid()
```

Input /Dataset : key board

Enter likelywood probability :5
Enter prior probability : 20

Output:

25.0

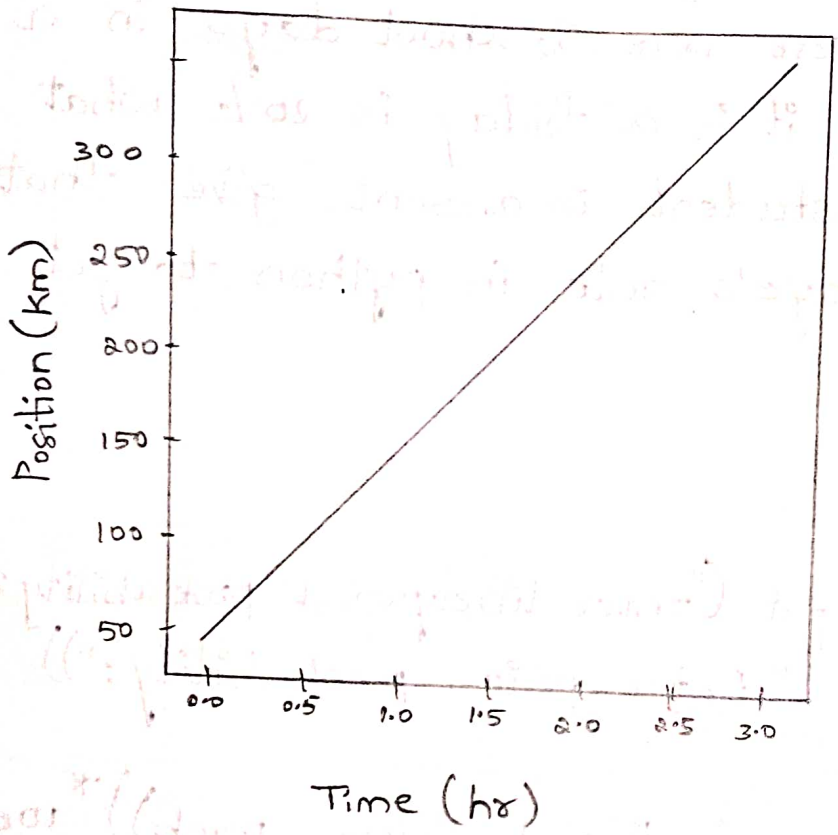
Experiment - 1

The probability that it is Friday and that a student is absent is 3%. Since there are 5 school days in a weak the probability that it is a Friday is 20%. what is the probability that a student is absent given that today is Friday? Apply Baye's rule in python to get the result.

Source code:

```
likelywood_prob = float(input("Enter likelywood probability:"))
Prior_prob = float(input("Enter prior probability:"))
posterior_prob = 0
posterior_Prob = ((likelywood_Prob) / Prior_prob))*100
print(posterior_Prob)
```

Output:



Experiment - 2

Extract the data from database using python (IRIS dataset)

source code :

```
import csv
import pandas as pd
my data = pd.read_CSV ("C:\\ IRIS.CSV")
print (my data)
```

Output :

	RI	Na	Mg	Al	Si	K	Ca
0	1.51793	12.79	3.50	1.12	73.03	0.64	8.77
1	1.51643	12.16	3.52	1.35	72.89	0.57	8.53
2	1.51793	13.21	3.48	1.41	72.64	0.59	8.43
3	1.51299	14.40	1.74	1.54	74.55	0.00	7.59
4	1.53393	12.30	0.00	1.00	70.16	0.12	16.19

...
...
...

Extract the data from database using python
(GLASS data set)

Source code:

```
import pandas as pd
mydata = pd.read_csv("C:\\Users\\Admin\\Desktop\\
                      glass_csv.csv")
print (mydata)
```