SOMAIYA VIDYAVIHAR UNIVERSITY

K. J. Somaiya School of Engineering, Mumbai-77
(Somaiya Vidyavihar University)

Somaiya TRUST

Course:	Python Programming			**Semester:**	First
Division:	C5	**Batch:**	C5-3	**Date:**	27/11/2024
Exam:	ON SCREEN TEST	**SET:**	A	**Time:**	4 PM to 5:30 PM
Name:	RAJAT KUMAR			**Roll No:**	16014224054

NOTE: COPY-PASTE code and output/error. Do not paste screen-shot/image

Q No	Question	Marks

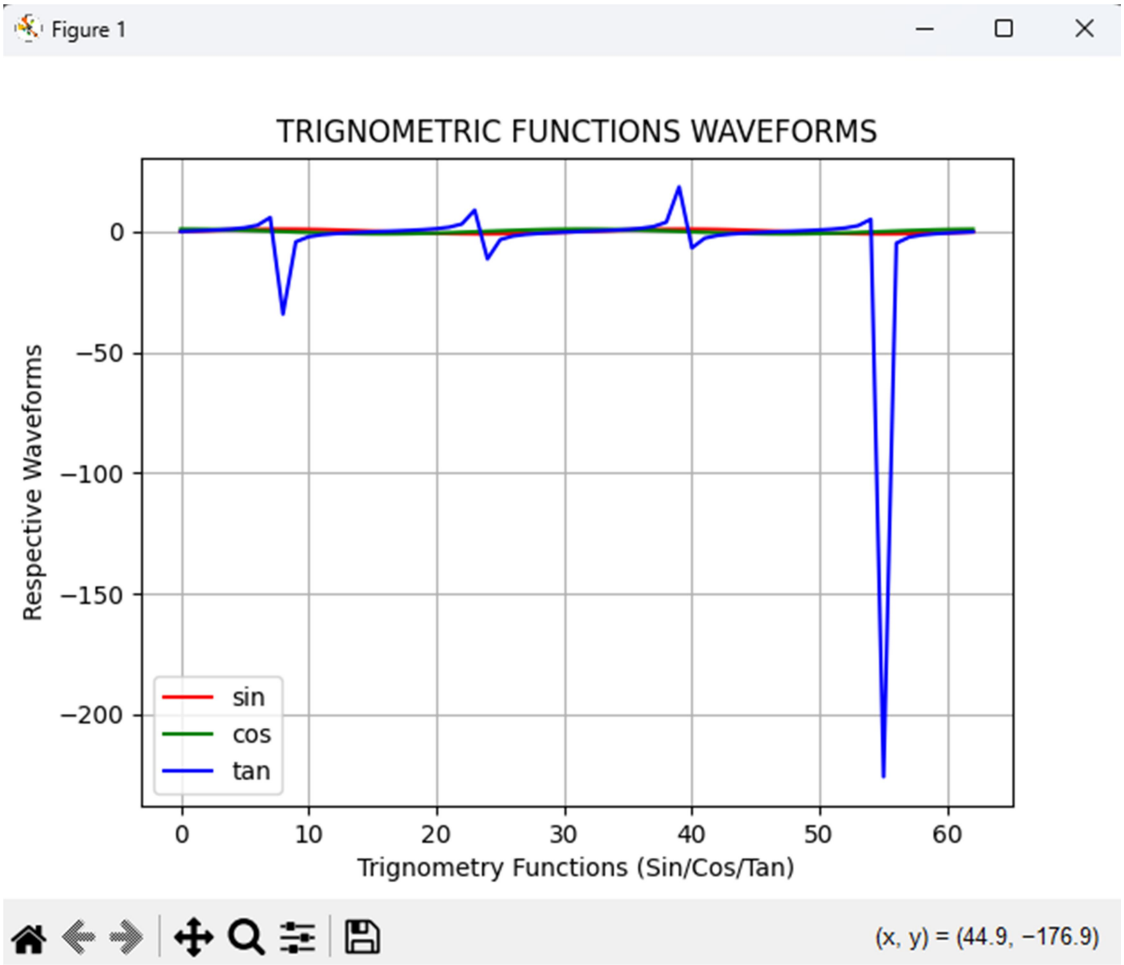
1	**PROGRAM 1 CODE: (Copy your program below)**
	
	l=input("Enter the elements of list (space-seperated): ").split()
	#converting each element of list to integer datatype
	l=list(map(int,l))
	#then, filtering the given list on required condition using lambda function!
	new_l=list(filter(lambda x:x<10 and x%2!=0 , l))
	print(new_l , "," , len(new_l))
	
	PROGRAM 1 OUTPUT/ ERROR: (Copy your output below)
	
	Enter the elements of list (space-seperated): 2 7 15 22 10 6
	[7] , 1
	PS C:\Users\Student> & C:/Users/Student/AppData/Local/Programs/
	Enter the elements of list (space-seperated): 1 6 15 -2 -17 6
	[1, -17] , 2
	PS C:\Users\Student> & C:/Users/Student/AppData/Local/Programs/
	Enter the elements of list (space-seperated): 17 -6 15 -2 17 6
	[] , 0
		08

2	**PROGRAM 2 CODE: (Copy your program below)**
	
	#importing the required python libraries
	import numpy as np
	import matplotlib.pyplot as plt
	
	#generating data using NumPy library as required.
	l=np.arange(0,12.566,0.2)
	list=list(map(float,l))
		12

```
y_sin=[float(np.sin(x)) for x in list]
y_cos=[float(np.cos(x)) for x in list]
y_tan=[float(np.tan(x)) for x in list]

plt.plot(y_sin, color = 'r',label='sin')
plt.plot(y_cos, color = 'g',label='cos')
plt.plot(y_tan, color = 'b',label='tan')

plt.xlabel("Trignometry Functions (Sin/Cos/Tan)")
plt.ylabel("Respective Waveforms")

plt.title("TRIGNOMETRIC FUNCTIONS WAVEFORMS")
plt.grid()
plt.legend()
plt.show()
```

PROGRAM 2 OUTPUT/ ERROR: (Copy your output below)