

Spyder (Python 3.7)

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Project explorer Editor - D:\Fia Machine Problem\Problem\_5\_Python.py IPython console

```

1 import matplotlib.pyplot as plt
2 import math
3 pi = math.pi
4 import numpy as np
5 sin = np.sin
6 n = np.arange(0, 200)
7 x = eval(input("Input function x(n): "))
8 f = np.zeros((x.shape))
9
10 for n in range(len(v)):
11     if n==0:
12         f[n] = -1.5*x[n]+2*x[n+1]-0.5*x[n+2]
13     elif v[n]<=198 and v[n]>0:
14         f[n] = 0.5*x[n+1]-0.5*x[n-1]
15     elif v[n]==199:
16         f[n] = 1.5*x[n]-2*x[n-1]+5*x[n-2]
17
18 plt.plot(v,x,'-b',label='x(n)')
19 plt.xlabel('x')
20 plt.plot(v,f,'-g',label='y(n)')
21 plt.ylabel('f[n]')
22 plt.legend()
23 plt.show()

```

Variable explorer

Name	Type	Size	Value
d1	float64	1	3.0
dt	float64	1	-9.999999999999998
e1	float64	1	2.0000000000000001
eq1	int32	(3, 3)	[[1 1 1] [2 4 1] [7 21 121]]

History log

```

history.py
([1,2],[2,3])
clear
runfile('D:/Fia Machine Problem/Problem_5_Python.py', wdir='D:/Fia Machine Problem')

```

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