

```
1 # Python-Script for Random Walk Implementation in 1D.
2
3 import numpy as np
4 import matplotlib.pyplot as plt
5
6 x = 0
7 y = 0
8 xposition = [0] #starting from origin (0,0)
9 yposition = [0]
10
11 n = eval(input('Enter the number of steps:'))
12
13 for i in range (1,n+1):
14     step_value = 2*np.random.randint(0,2)-1
15     if step_value == 1: # if step value is 1 we move up
16         x += 1
17         y += 1 #moving up in u direction
18     if step_value == -1: # if step is 0 we move down
19         x += 1
20         y += -1 #moving down in y direction
21     xposition.append(x)
22     yposition.append(y)
23 plt.plot(xposition,yposition,'r-', label = 'Randwalk1D')
24 plt.xlabel('stpes')
25 plt.ylabel('position')
26 plt.title('1-D Random Walks')
27 plt.show()
```