[HW6-1]

I expect the program to plot a bunch of random points in the plane. In other words there wont be any straight line or direction.

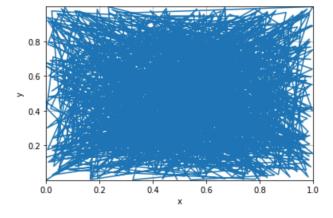
```
In [1]: import numpy as np
import matplotlib.pyplot as plt

In [3]: file_path1 = '/Users/Austin/Desktop/PHY 40/Homework/6/HW6_1.txt'

    x, y = np.loadtxt(file_path1, unpack = True) #Method to extract/import information

# print(min(x), max(x))
# print(min(y), max(y))

plt.plot(x,y)
    plt.xlabel('x')
    plt.ylabel('y')
    #plt.legend()
    ax=plt.gca() #Allows for axis limits
    ax.set(xlim=(min(x), max(x)), ylim=(min(y), max(y)))
    plt.grid()
    plt.show()
```



[HW6-2]

- i. The values I get for M/N for:
 - 1. 10² is .71
 - 2. 10⁴ is .7874
 - 3. 10⁶ is .7855
 - 4. 10⁸ is .7854
- ii. While I only have my decimal values up to 4, the M/N values that I get are just the number of pairs there are divided by the total number of integers N

[HW6-3]

The boundaries are:

```
    i. ix[0]..ix[30] at iy[0] - bottom
    ii. ix[0]..ix[30] at iy[20] - top
    iii. iy[0]..iy[20] at ix[0] - Left
    iv. iy[0]..iy[20] at ix[30] - Right
```

[HW6-4]

i. The values that I get can be seen in the code run program.