Sukti Tiwari
Homework #5
Dr Su Yan
Eng . Programming and application

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

x = np.linspace(0,5,100)
s = np.arange(100)
k = np.arange(100)
vxt = lambda x,s,k: (x*(k*s+1)-x*(k*s))/s
dxdt = vxt(x,s,k)

y = np.linspace(0,10,100)
s = np.arange(100)
k = np.arange(100)
vyt = lambda y,s,k: (y*(k*s+1)-y*(k*s))/s
dydt = vyt(y,s,k)

plt.plot(dxdt,dydt)
plt.show()

plt.plot(dxdt,s,label='Velocity in xdirection')
plt.legend()
plt.grid(True)
plt.show()

plt.plot(s,dydt,label='Velocity in ydirection')
plt.legend()
plt.grid(True)
plt.show()
```

OUTPUT

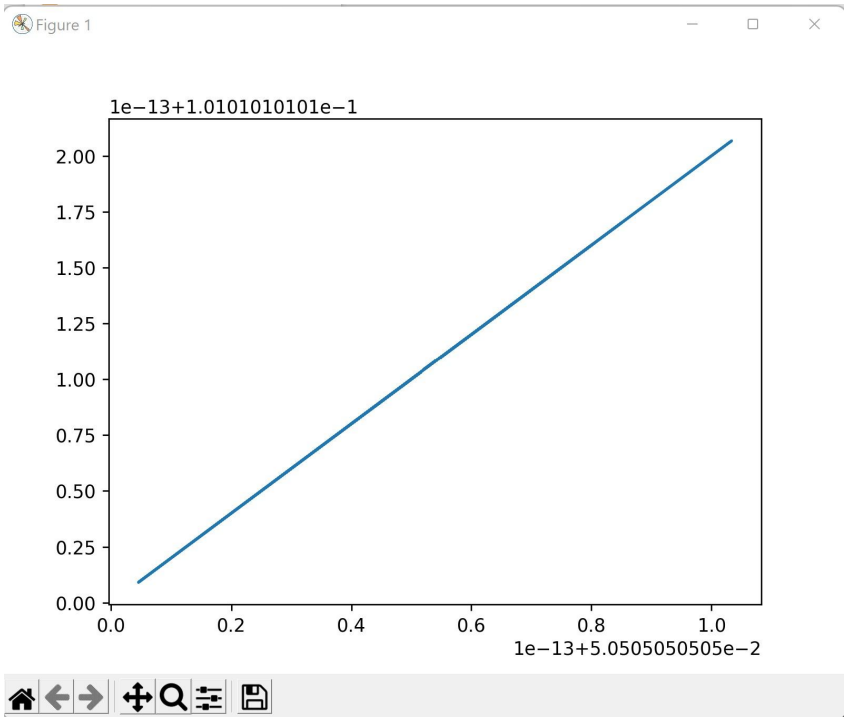
Figure 1
1e−13+1.0101010101e−1
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.0
0.2
0.4
0.6
0.8
1.0
1e−13+5.0505050505e−2

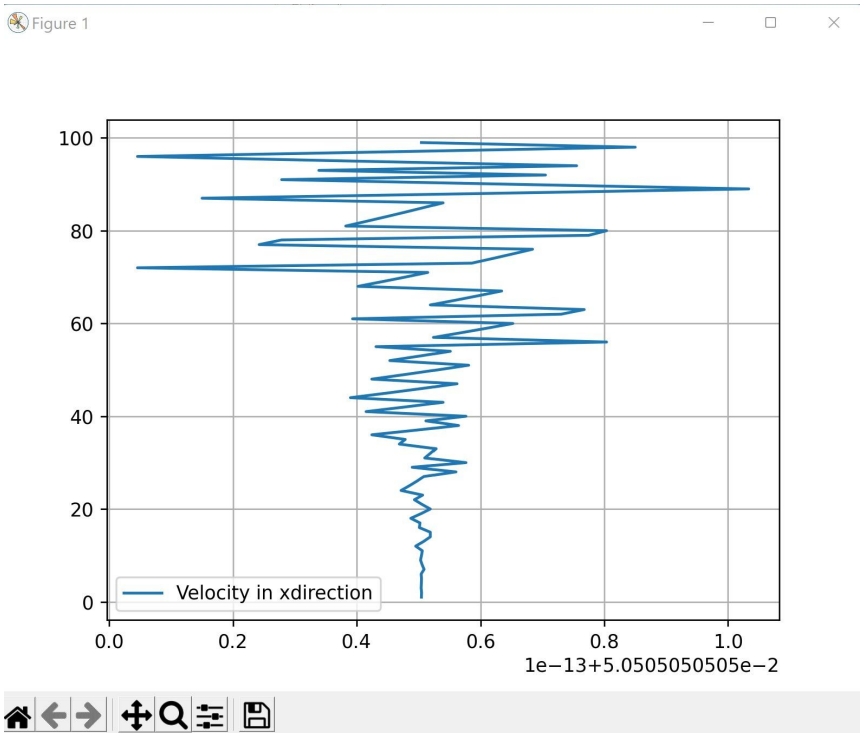
Figure 1
100
80
60
40
20
0
Velocity in xdirection
0.0
0.2
0.4
0.6
0.8
1.0
1e−13+5.0505050505e−2

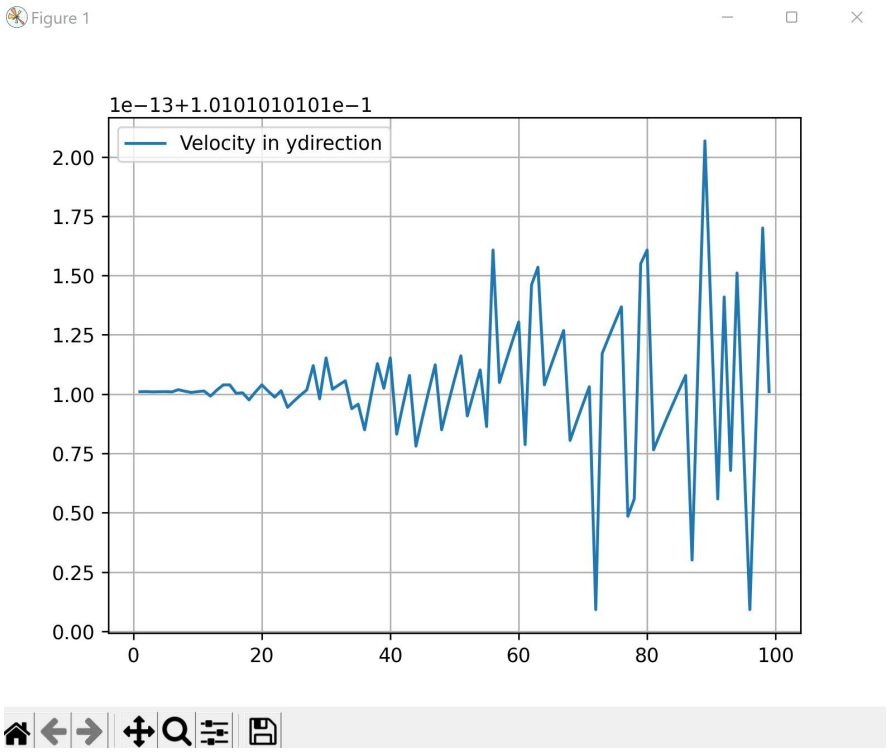
Figure 1
1e−13+1.0101010101e−1
Velocity in ydirection
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
20
40
60
80
100