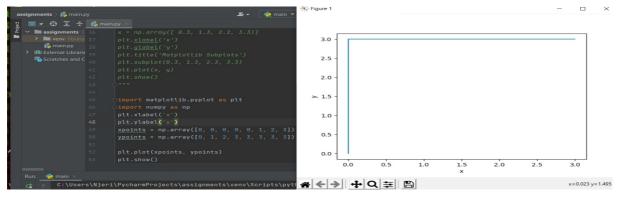
Move robot to goal on a 1*1 grid

Plot 1

```
import matplotlib.pyplot as plt
import numpy as np
xpoints = np.array([0, 0, 0, 0, 1, 2, 3])
ypoints = np.array([0, 1, 2, 3, 3, 3, 3])
plt.plot(xpoints, ypoints)
plt.show()
```

0, 0 **0,** 1 **0,** 2 **0,** 3 **0,** 3 **1,** 3 **2,** 3 **3,** 3

```
x= 0, 0, 0, 0, 0, 1, 2, 3
y= 0, 1, 2, 3, 3, 3, 3
```

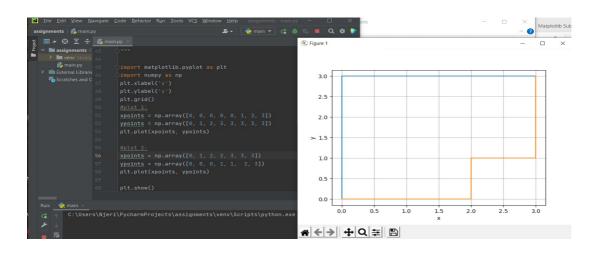


```
#plot 2:
xpoints = np.array([0, 1, 2, 2, 3, 3, 3])
ypoints = np.array([0, 0, 0, 1, 1, 2, 3])
plt.plot(xpoints, ypoints)
```

```
0, 0 1, 0 2, 0 2, 1, 3, 1, 3, 2 3, 3
```

```
x=0, 1, 2, 2, 3, 3, 3

y=0, 0, 0, 1, 1, 2, 3
```

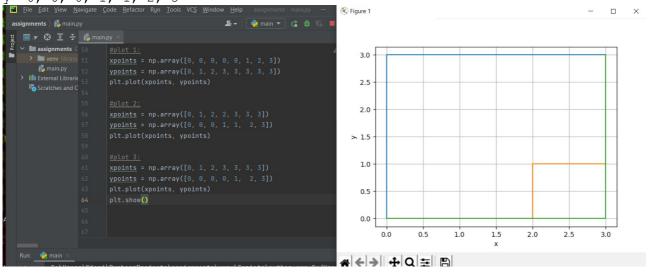


```
#plot 3:
xpoints = np.array([0, 1, 2, 3, 3, 3])
ypoints = np.array([0, 0, 0, 0, 1, 2, 3])
plt.plot(xpoints, ypoints)
```

0, 0 **1,** 0 **2,** 0 **2,** 1 **3,** 1 **3,** 2 **3,** 3

```
x= 0, 1, 2, 2, 3, 3, 3

y= 0, 0, 0, 1, 1, 2, 3
```



Obstacles

```
1,1 1,2 2,2 x = 1, 1, 2 y = 1, 2, 2
```

```
Eile Edit View Navigate Code Refactor Run Tools VCS Window Help
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Α'n
| Scratches and C 51 | Sanginents | Sanginen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Figure 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          xpoints = np.array([0, 0, 0, 0, 0, 1, 2, 3])
ypoints = np.array([0, 1, 2, 3, 3, 3, 3, 3])
plt.plot(xpoints, ypoints)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.5
                                                                                                                                                                                      xpoints = np.array([0, 1, 2, 2, 3, 3, 3])
ypoints = np.array([0, 0, 0, 1, 1, 2, 3])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          > 1.5
                                                                                                                                                                                    xpoints = np.array([0, 1, 2, 3, 3, 3, 3])
ypoints = np.array([0, 0, 0, 0, 1, 2, 3])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.5
                                                                                                                                                                                    #obstacl1:

xpoints = np.array([1, 1, 2])

ypoints = np.array([1, 2, 2])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.0
```

import matplotlib.pyplot as plt

```
import numpy as np
plt.xlabel('x')
plt.ylabel('y')
plt.grid()
#plot 1:
xpoints = np.array([0, 0, 0, 0, 0, 1, 2, 3])
ypoints = np.array([0, 1, 2, 3, 3, 3, 3])
plt.plot(xpoints, ypoints)
#plot 2:
xpoints = np.array([0, 1, 2, 2, 3, 3, 3])
ypoints = np.array([0, 0, 0, 1, 1, 2, 3])
plt.plot(xpoints, ypoints)
#plot 3:
xpoints = np.array([0, 1, 2, 3, 3, 3, 3])
ypoints = np.array([0, 1, 2, 3, 3, 3, 3])
ypoints = np.array([0, 0, 0, 0, 1, 2, 3])
plt.plot(xpoints, ypoints)
#obstacls:
xpoints = np.array([1, 1, 2])
ypoints = np.array([1, 2, 2])
plt.scatter(xpoints, ypoints)
plt.show()
```