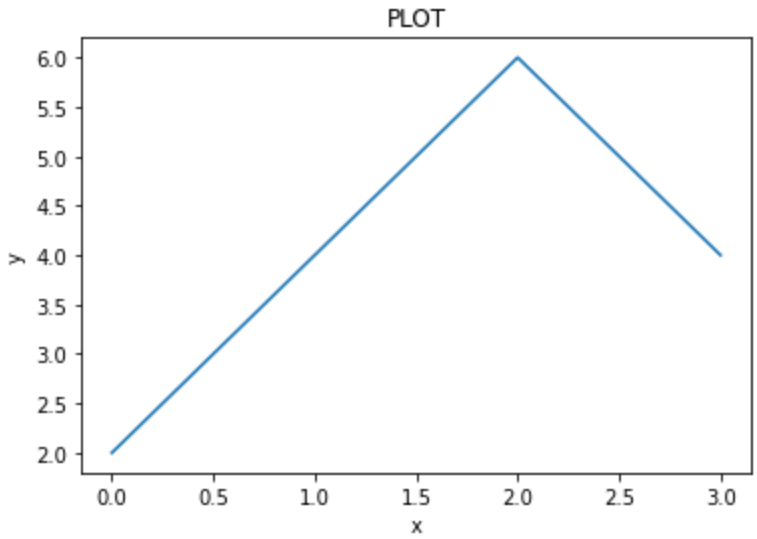
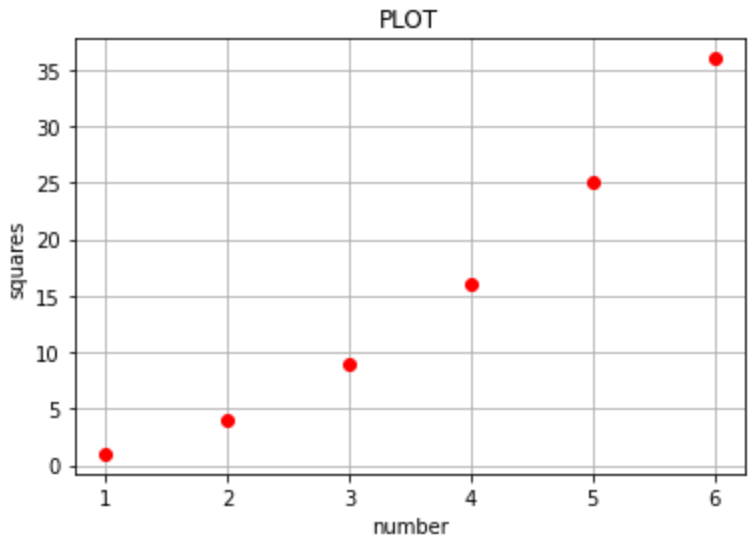
Matplotlib

```
import matplotlib.pyplot as plt
```

```
plt.plot([2,4,6,4])
plt.xlabel("x")
plt.ylabel("y")
plt.title("PLOT")
plt.show()
```



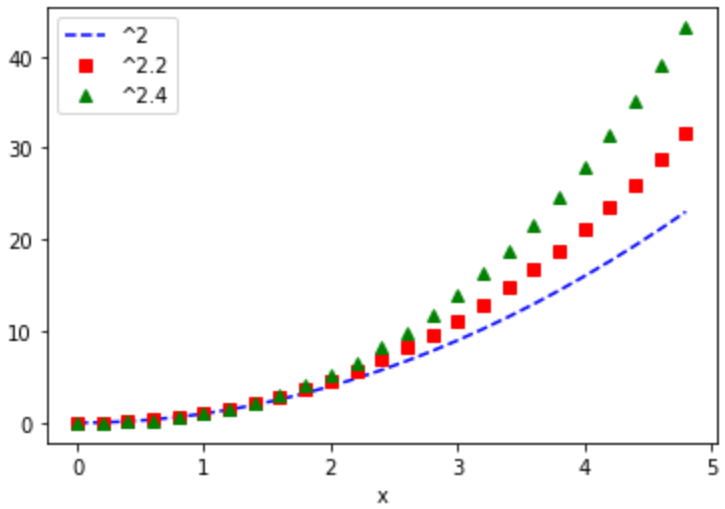

```
plt.plot([1,2,3,4,5,6],[1,4,9,16,25,36], 'ro')
plt.xlabel("number")
plt.ylabel("squares")
plt.grid()
plt.title("PLOT")
plt.show()
```




```
import numpy as np
```

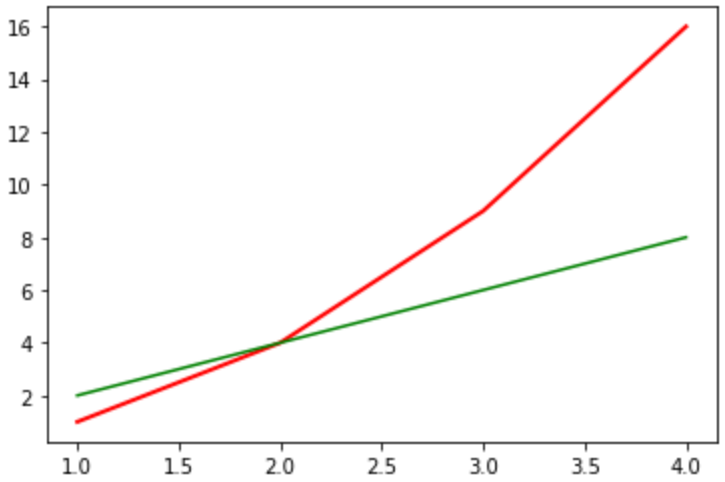
```
a = np.arange(0,5,0.2)

plt.plot(a, a**2, 'b--' ,label="^2")
plt.plot(a, a**2.2, 'rs' ,label="^2.2")
plt.plot(a, a**2.4, 'g^' ,label="^2.4")
plt.xlabel("x")
plt.legend()
plt.show()
```




```
x1 = np.array([1, 2, 3, 4])
y1 = x1**2
x2 = np.array([1, 2, 3, 4])
y2 = x2*2

lines = plt.plot(x1, y1, x2, y2)
plt.setp(lines[0], color='r', linewidth=2.0)
plt.setp(lines[1], 'color', 'g', 'linewidth', 1.5)
plt.show()
```



Working with multiple figures and axes

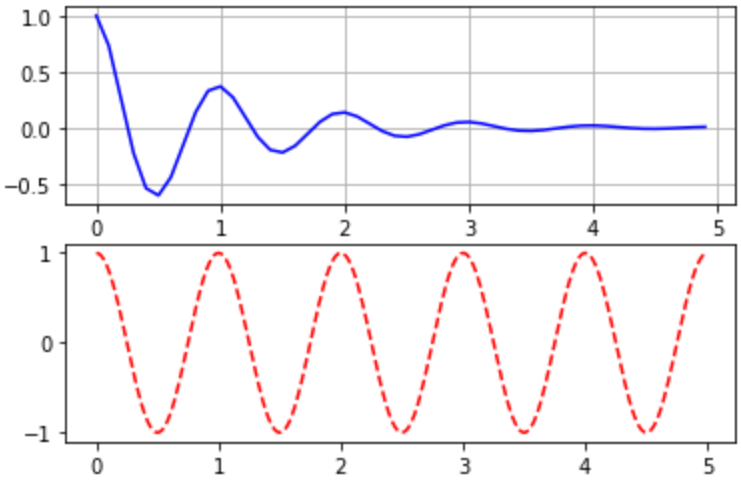
```
def f(t):
  return np.exp(-t) * np.cos(2*np.pi*t)
```

```
t1 = np.arange(0, 5, 0.1)
t2 = np.arange(0, 5, 0.02)

plt.figure(1)
plt.subplot(2,1,1)
plt.grid()
plt.plot(t1, f(t1), 'b-')

plt.subplot(2,1,2)
plt.plot(t2, np.cos(2*np.pi*t2), 'r--')

plt.show()
```




```
plt.figure(1)
plt.subplot(2,1,1)
plt.plot([1,2,3,4])
plt.subplot(2,1,2)
plt.plot([6,7,8,9,9,9,9,10,12])

plt.figure(2)
plt.plot(np.arange(0, 100, 10))

plt.figure(1) #switches to the 1st figure
plt.subplot(2,1,1)
plt.title('title')

plt.show()
```

```
/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:11: MatplotlibDeprecationWar
  # This is added back by InteractiveShellApp.init_path()
```