ASSIGNMENT : DATA VISUALISATION (MATPLOTLIB)

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

xpoints = np.array([0, 6])
ypoints = np.array([0, 250])

plt.plot(xpoints, ypoints)
plt.show()

xpoints = np.array([1, 8])
ypoints = np.array([3, 10])

plt.plot(xpoints, ypoints, 'o')
plt.show()

ypoints = np.array([3, 8, 1, 10, 5, 7])
plt.plot(ypoints, marker='o')
plt.show()

ypoints = np.array([3, 8, 1, 10, 5, 7])
plt.plot(ypoints, 'o--r')
plt.show()

ypoints = np.array([3, 8, 1, 10, 5, 7])
plt.plot(ypoints, marker = 'o', ms=50)
plt.show()

ypoints = np.array([3, 8, 1, 10, 5, 7])
plt.plot(ypoints, marker = 'o', ms=50)
plt.show()

ypoints = np.array([3, 8, 1, 10, 5, 7])
plt.plot(ypoints, marker = 'o', ms=10, mec = 'r')
plt.show()

x1 = np.array([0, 1, 2, 3])
y1 = np.array([3, 8, 1, 10])
x2 = np.array([0, 1, 2, 3])
y2 = np.array([6, 2, 7, 11])

font1 = {'family':'serif', 'color': 'blue', 'size':20}

plt.plot(x1, y1, x2, y2)
plt.title("SPORTS WATCH DATA", fontdict = font1)
plt.xlabel("Average pulse")
plt.ylabel("calorie burnage")
```

```
plt.show()

x1 = np.array([0, 1, 2, 3])
y1 = np.array([3, 8, 1, 10])
x2 = np.array([0, 1, 2, 3])
y2 = np.array([6, 2, 7, 11])

font1 = {'family':'serif', 'color': 'blue', 'size':20}

plt.plot(x1, y1, x2, y2)
plt.title("SPORTS WATCH DATA")
plt.grid()
plt.xlabel("Average pulse")
plt.ylabel("calorie burnage")
plt.show()

x1 = np.array([0, 1, 2, 3])
y1 = np.array([3, 8, 1, 10])
plt.plot(x1, y1)
plt.xlabel("Average pulse")
plt.ylabel("calorie burnage")
plt.grid(axis = 'y')
plt.show()

x1 = np.array([0, 1, 2, 3])
y1 = np.array([3, 8, 1, 10])
plt.plot(x1, y1)
plt.xlabel("Average pulse")
plt.ylabel("calorie burnage")
plt.grid(axis = 'x', linestyle = "--")
plt.show()

x1 = np.array([0, 1, 2, 3])
y1 = np.array([3, 8, 1, 10])
x2= np.array([0, 1, 2, 3])
y2 = np.array([3, 8, 1, 10])
plt.subplot(1, 2, 1)
plt.plot(x1, y1)
plt.subplot(1, 2, 2)
plt.plot(x2, y2)
plt.show()

x = np.array([0, 1, 2, 3, 6, 10, 12, 9, 20])
y = np.array([3, 8, 1, 10, 12, 15, 31, 6, 7])
plt.scatter(x, y)
plt.show()

x1 = np.array(["A", "B", "C", "D"])
```

```
y1 = np.array([3, 8, 1, 10])
plt.bar(x1, y1)
plt.show()

x1 = np.array(["A", "B", "C", "D"])
y1 = np.array([3, 8, 1, 10])
plt.barh(x1, y1)
plt.show()

x1 = np.array(["A", "B", "C", "D"])
y1 = np.array([3, 8, 1, 10])

plt.subplot(2, 2, 1)
plt.title("sem1")
plt.bar(x1, y1)

x1 = np.array(["A", "B", "C", "D"])
y1 = np.array([3, 8, 1, 10])

plt.subplot(2, 2, 2)
plt.title("sem2")
plt.bar(x1, y1)

x1 = np.array(["A", "B", "C", "D"])
y1 = np.array([3, 8, 1, 10])

plt.subplot(2, 2, 3)
plt.title("sem3")
plt.bar(x1, y1)
plt.show()

y = np.array([35, 25, 25, 15])
myLabels = ["Apples", "Bananas", "Cherries", "Dates"]
myexplode = [0.2, 0, 0, 0]

plt.pie(y, labels = myLabels, explode = myexplode, shadow = True)
plt.show()
```