Assignment 2

1. Generate random data with NumPy for 1000 data points with 2 columns only.

```
x1 = 3 * np.random.rand(1000, 1)
y1 = 4 + 3 *x1* np.random.randn(1000, 1)
```

2. Plot Scatter plot, line plot with that in all variations we covered in the class.

```
plt.scatter(x1, y1)
plt.title("Scatter plot between $X$ and $Y$")
plt.xlabel("X axis")
plt.ylabel("Y axis")
plt.show()
```

Changing the color

```
 plt.scatter(x1, y1, c="red")
plt.title("Red colored scatter plot")
 plt.xlabel("$X$ axis")
plt.ylabel("$Y$ axis")
plt.show()
```

Changing the size

```
 plt.scatter(x1, y1, s=100)
 plt.title("Increased size scatter plots")
 plt.xlabel("$X axis$")
 plt.ylabel("$Y axis$")
 plt.show()
```

Changing the edge colors

```
plt.scatter(dataset[0][0], dataset[0][1], c="red", s=100, label="From X1, Y1", marker="o ", edgecolors="k")

plt.scatter(dataset[1][0], dataset[1][1], c="green", s=100, label="From X2, Y2", marker= "^", edgecolors="y")

plt.title("Labelled data")

plt.xlabel("$X axis$")

plt.ylabel("$Y axis$")

plt.legend()

plt.show()
```