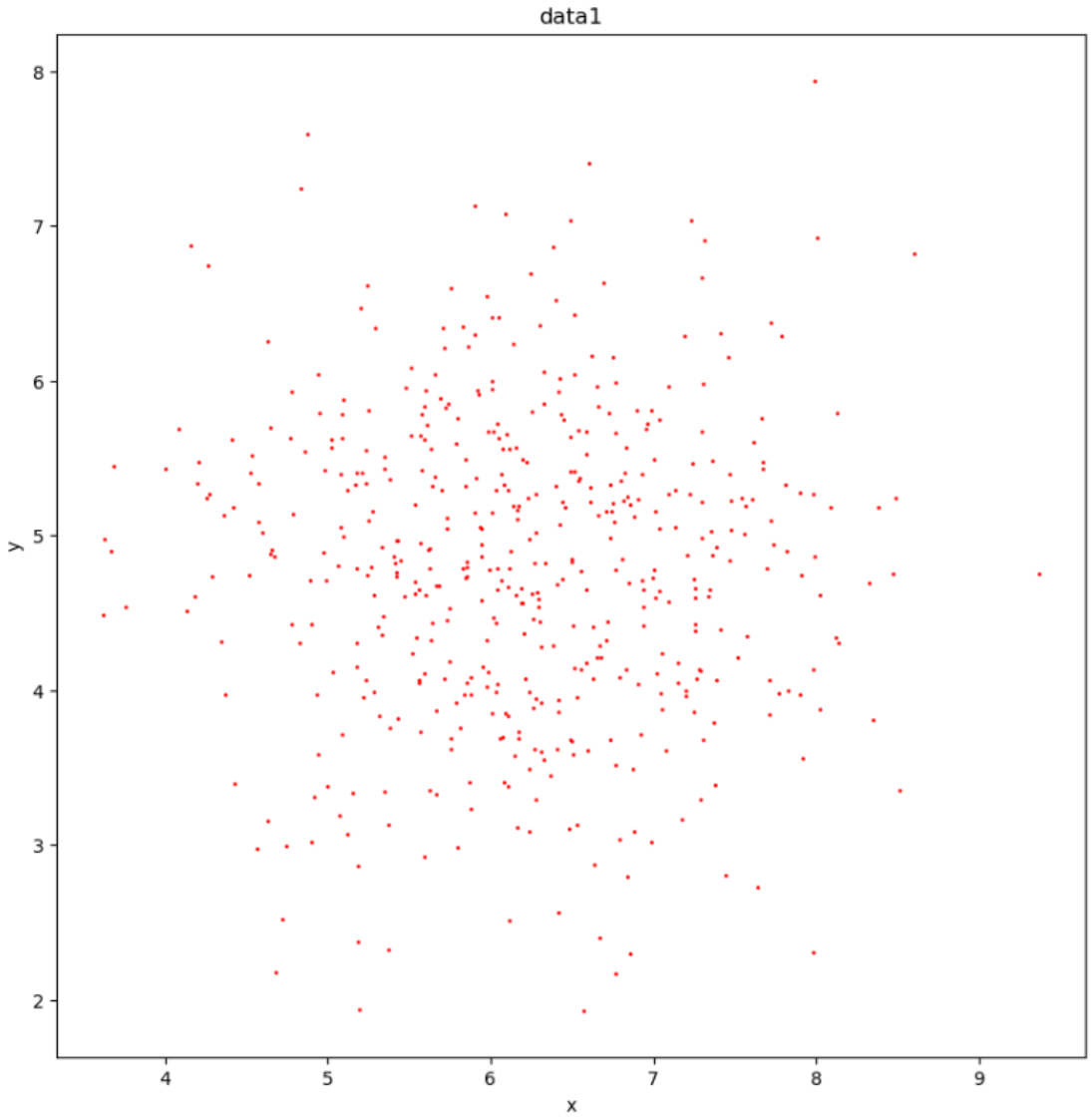
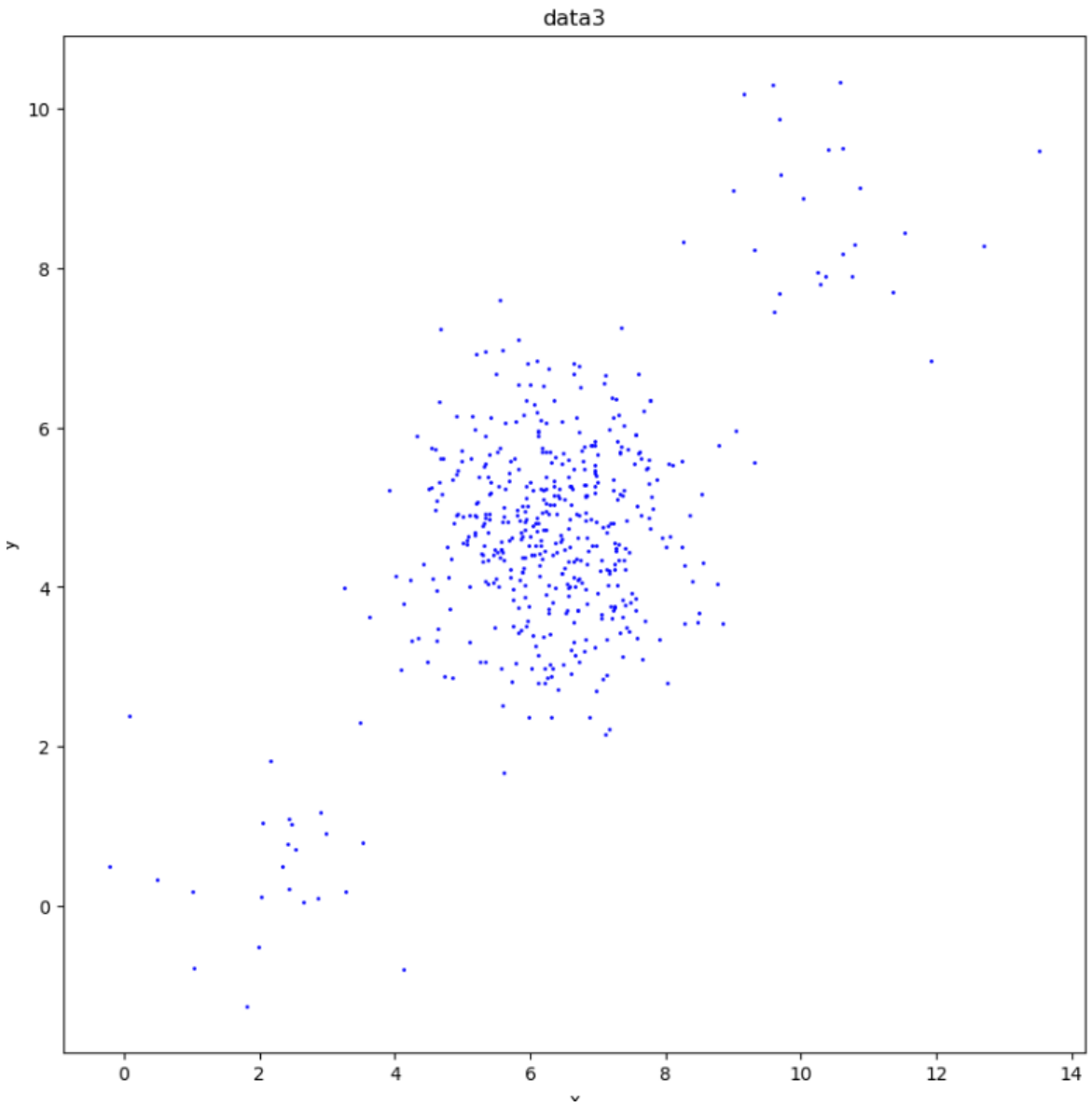
Scatter Plot

In a scatter plot, individual data points are represented as points on a 2D plane, with one variable on the x-axis and the other variable on the y-axis. As shown below for data1 & data3.



Scatter plot for data3



Histogram plot

To plot a histogram using python, follow these steps:

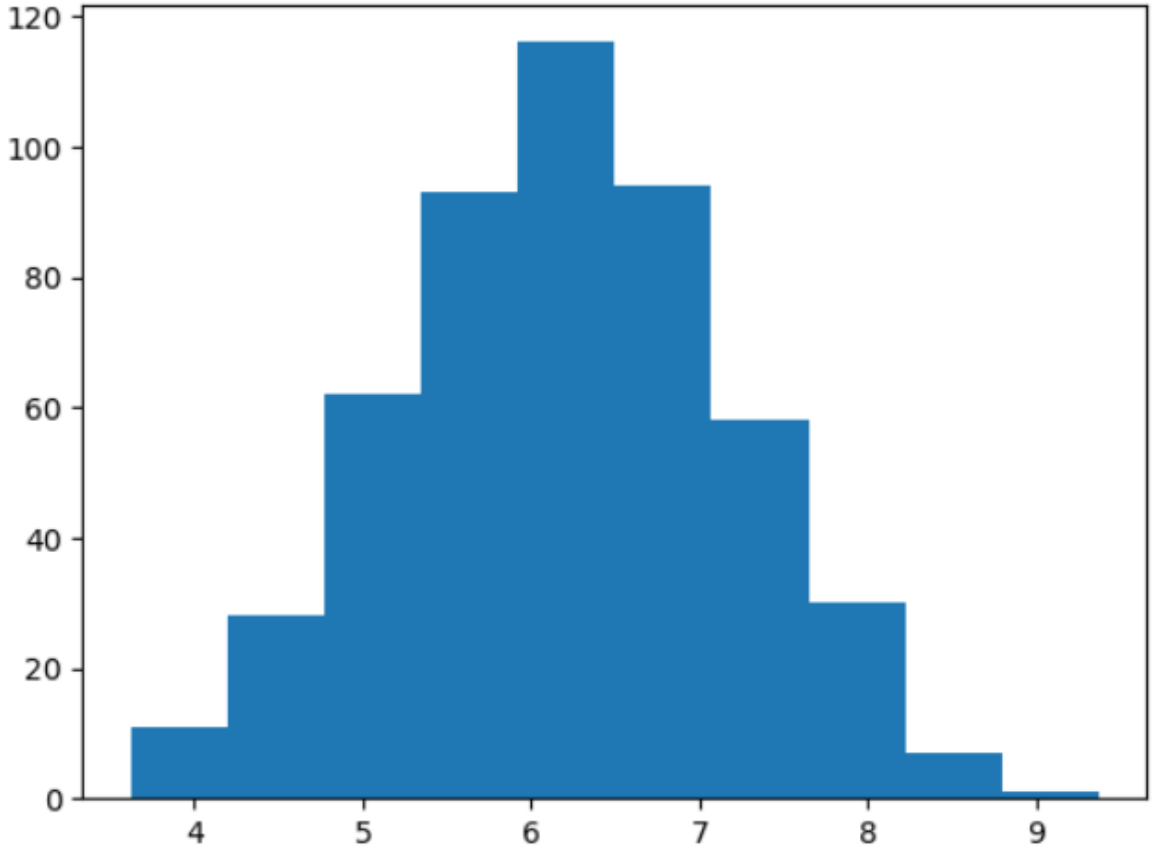
1.Import the necessary libraries, for example, matplotlib and numpy.

2. Prepare the data you want to plot. This can be done by generating random data using numpy or by loading data from a file.

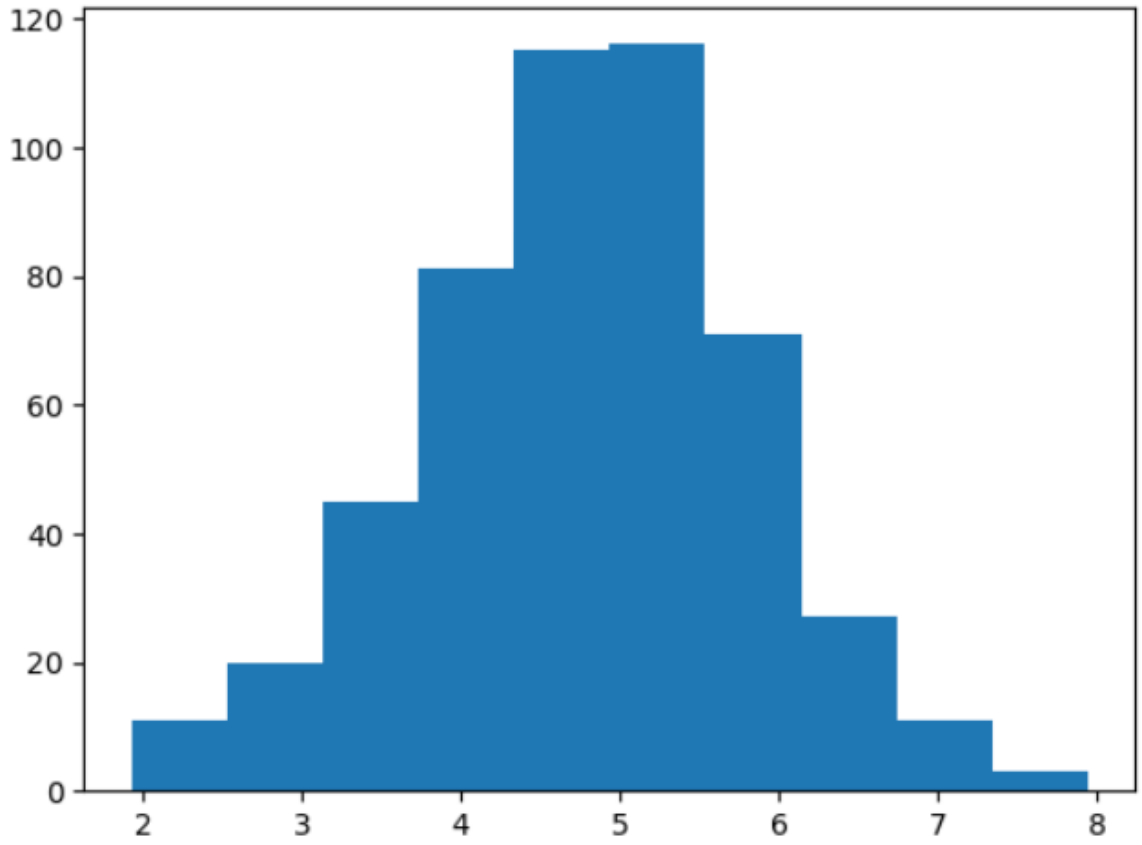
3.Use the hist function from matplotlib to plot the histogram. You can specify the number of bins you want to use to group the data and customize the appearance of the plot using various optional arguments.

4.Show the plot using show function from matplotlib.

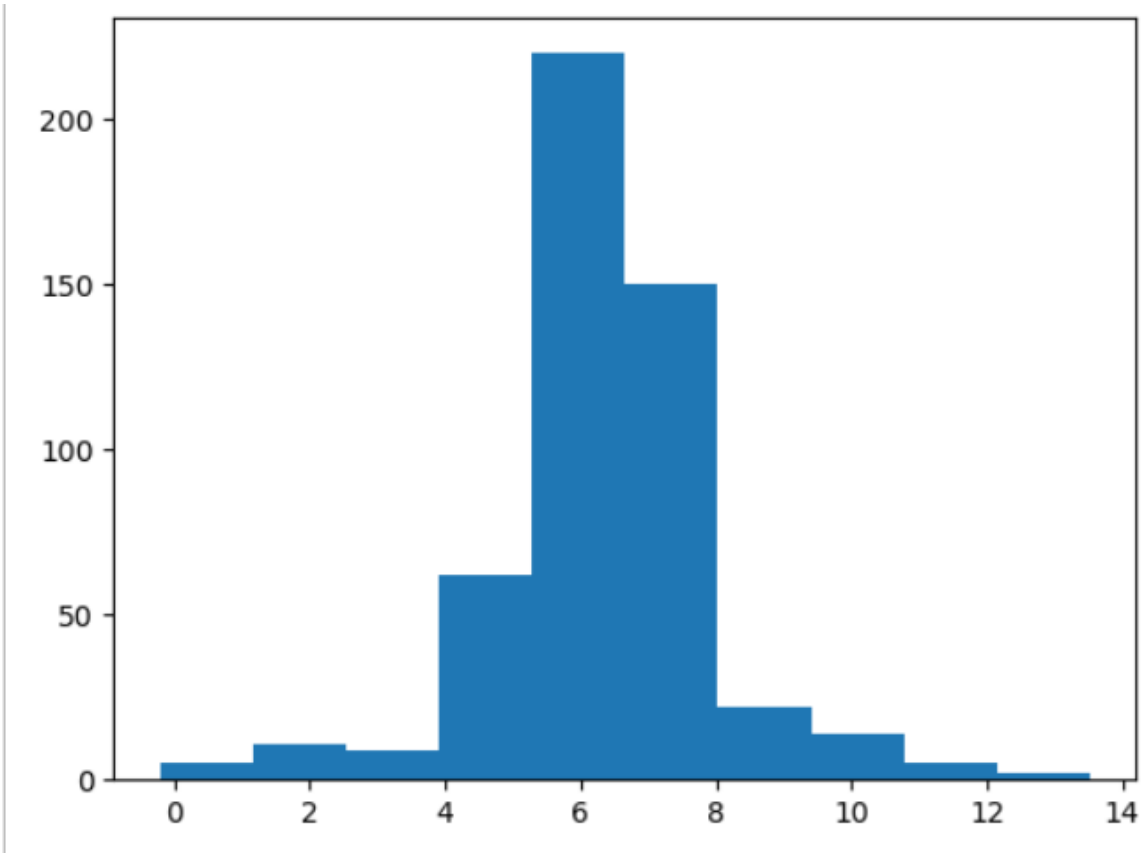
Histogram for X-coordinate of data1



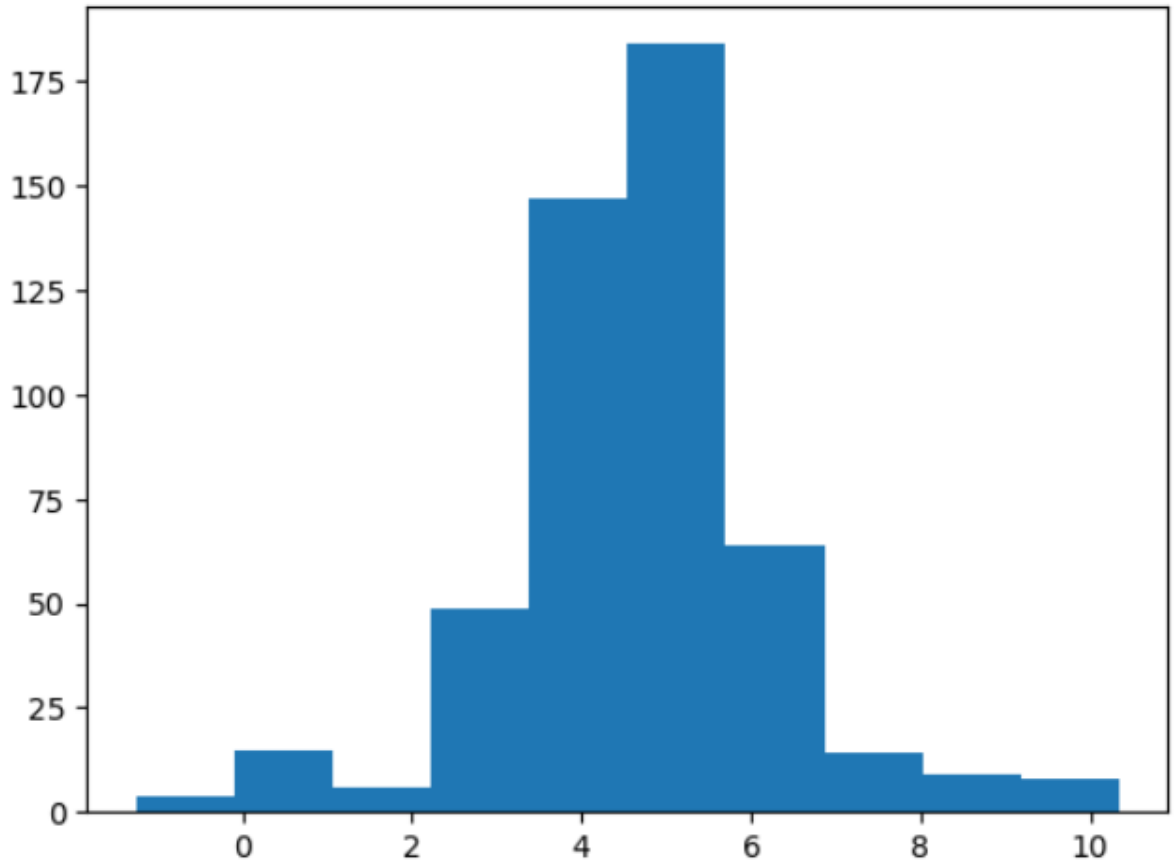
Histogram for Y-coordinate of data1



Histogram for X-coordinate of data3



Histogram for Y-coordinate of data3



HeatMap Plot

To plot a heatmap using python, follow these steps:

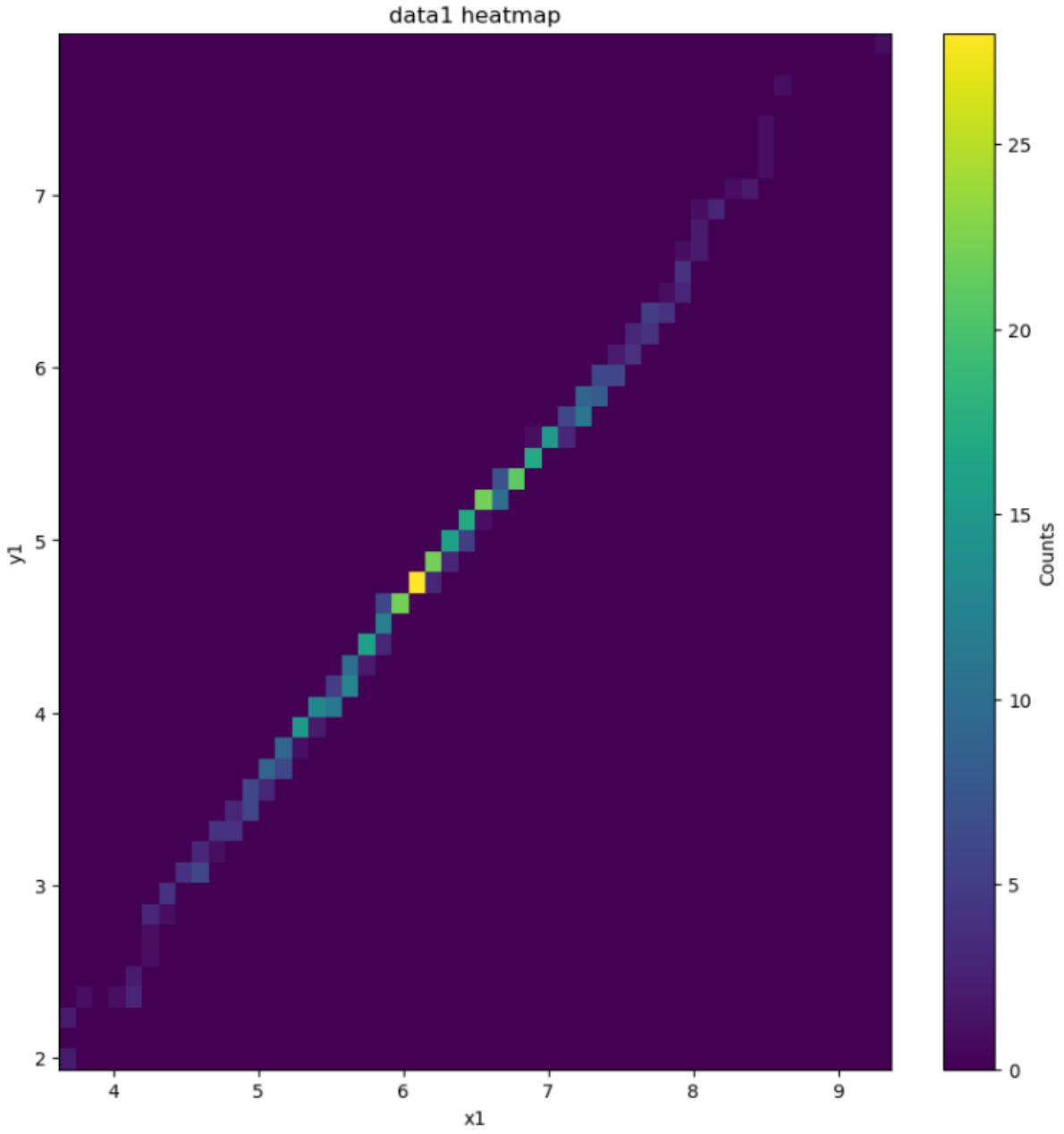
1.Import the necessary libraries, for example, matplotlib and seaborn.

2.Prepare the data you want to plot. This can be done by generating random data using numpy or by loading data from a file. The data should be in the form of a 2D array or matrix.

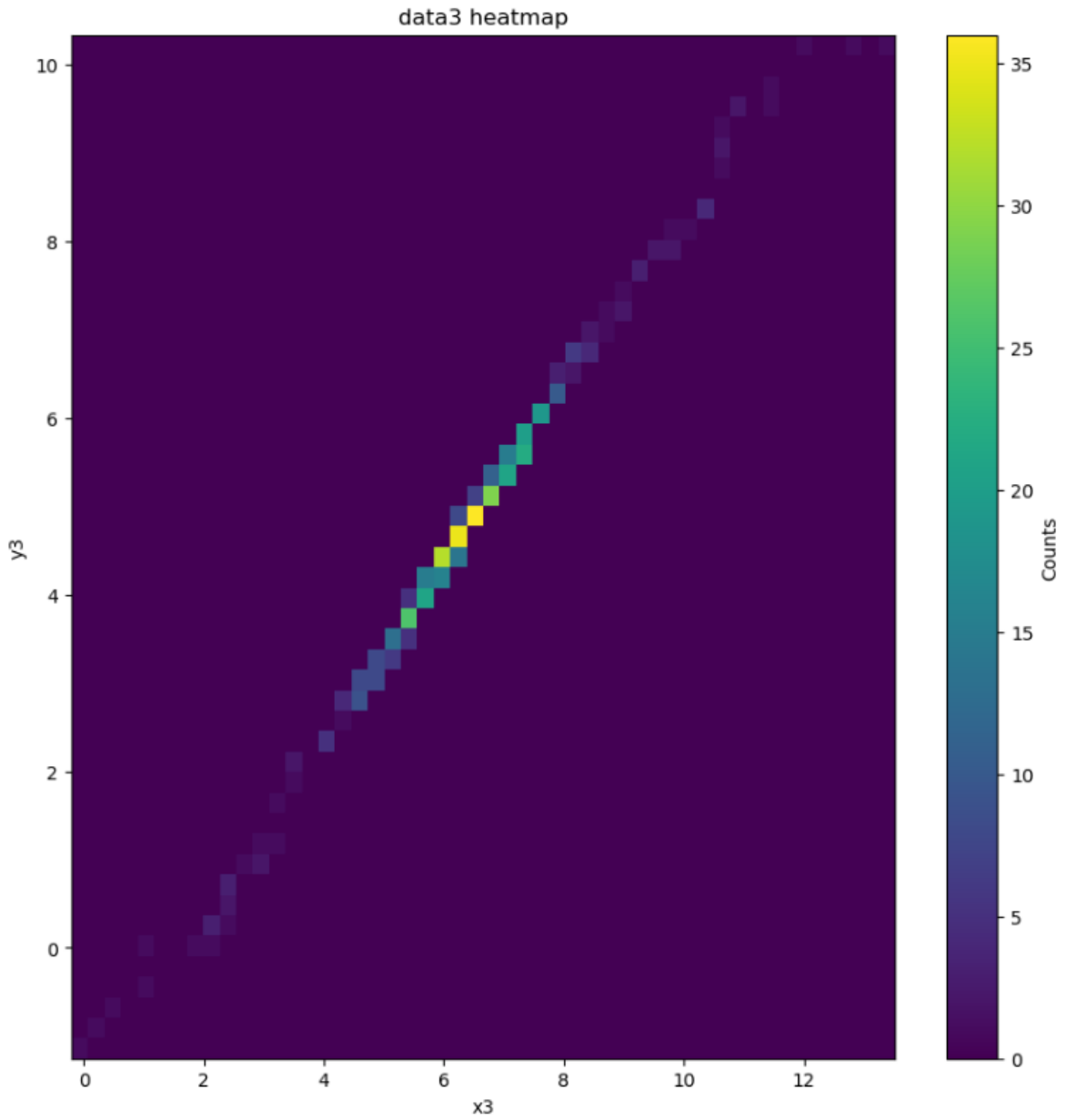
3.Use the heatmap function from seaborn to plot the heatmap. You can specify the data you want to plot and customize the appearance of the plot using various optional arguments.

4.Show the plot using show function from matplotlib.

Heatmap plot for data1-



Heatmap plot for data3-



Box Plot

To plot a box plot, belows are these steps:

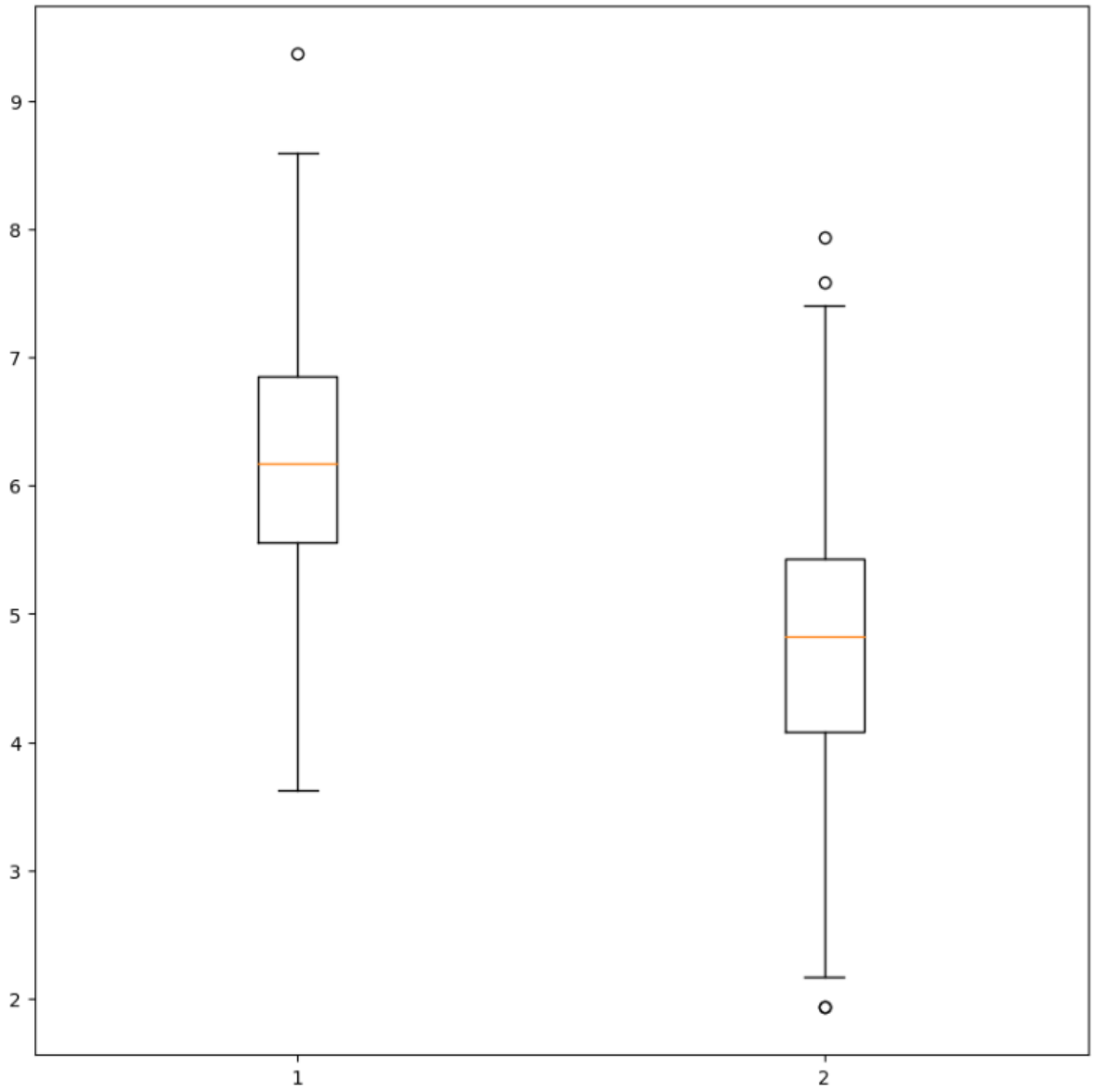
1.Import the necessary libraries, for example, matplotlib and seaborn.

2.Prepare the data you want to plot. This can be done by generating random data using numpy or by loading data from a file.

3.Use the boxplot function from seaborn or the boxplot method from matplotlib to plot the box plot. You can specify the data you want to plot and customize the appearance of the plot using various optional arguments.

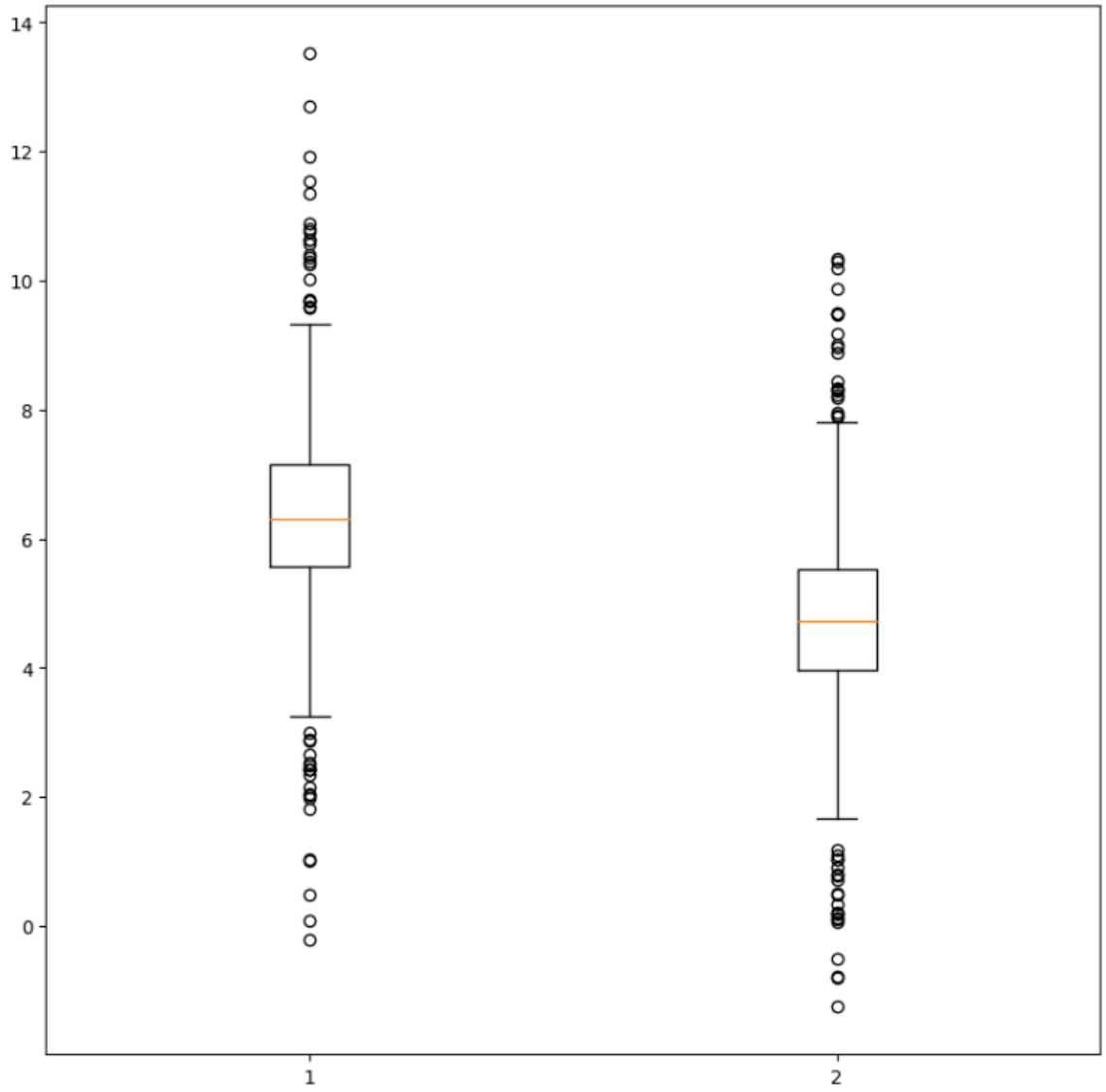
4.Show the plot using show function from matplotlib.

Box Plot for data1-



left side box is of x & right side box is of y.

Box Plot for data3-



left side box is of x & right side box is of y.

Statistics

For data1:

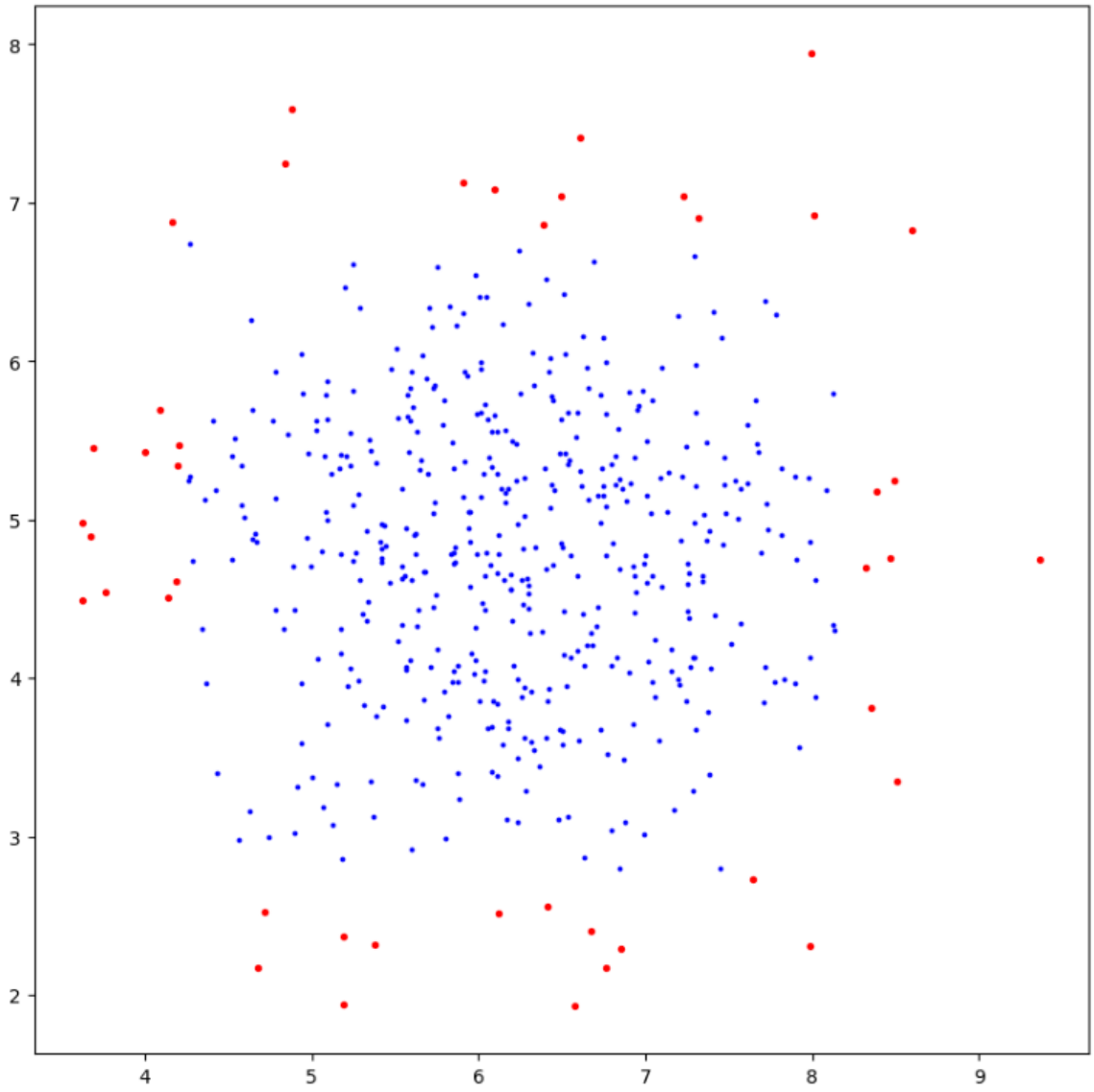
```
Median of X = 6.174278
Median of Y = 4.824768

Mean of X = 6.189743
Mean of Y = 4.792984

Mode of X = 6.143348
Mode of Y = 4.888336000000001

Kurtosis of X = -0.20393248917210238
Kurtosis Y = 0.09080227613137248

skewness of X = -0.0013613988672292099
skewness of Y = -0.12074949274829158
```

For data3:

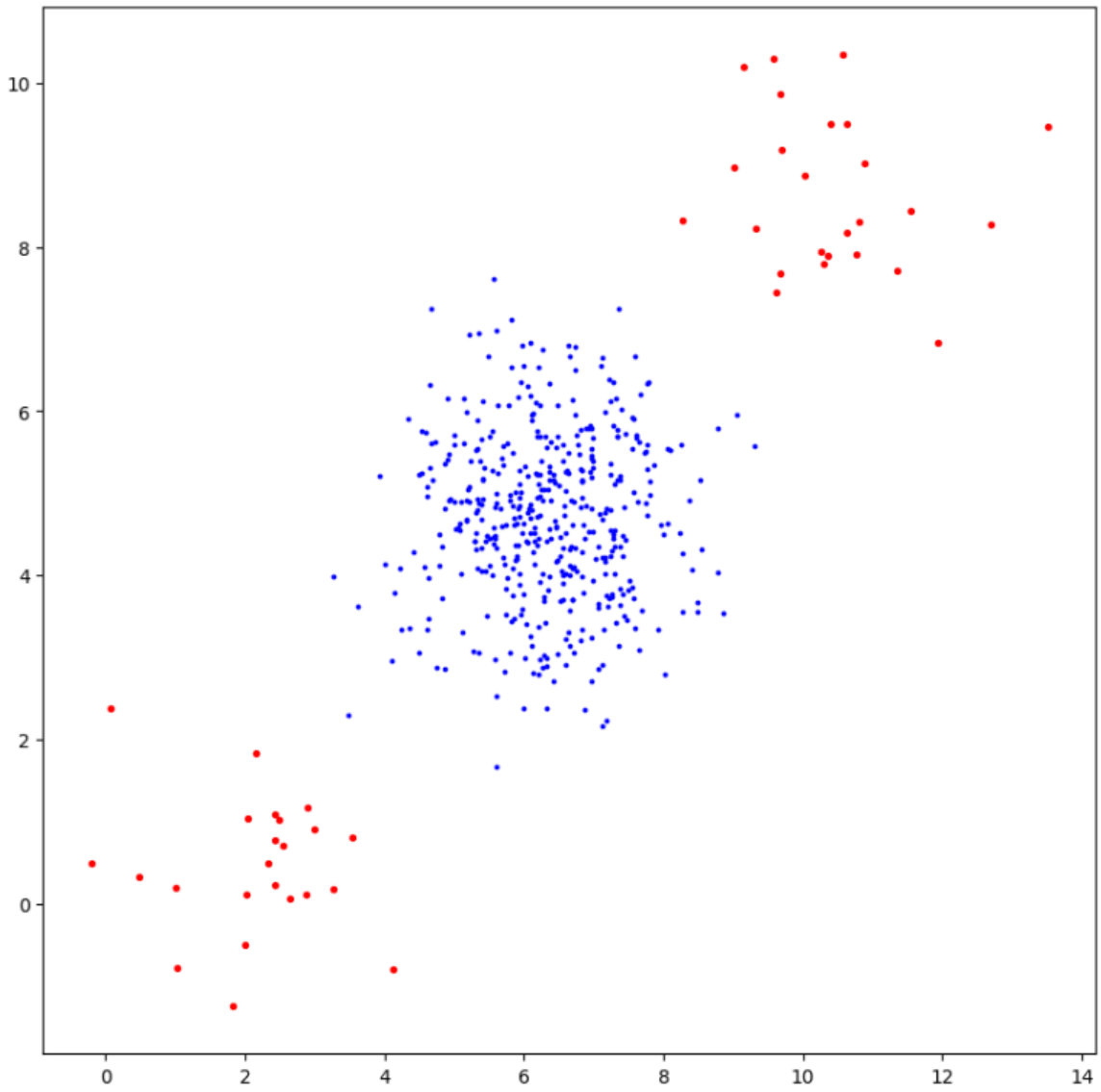
```
Median of X = 6.304875
Median of Y = 4.728847

Mean of X = 6.332468
Mean of Y = 4.702896

Mode of X = 6.249689
Mode of Y = 4.728847

Kurtosis of X = 3.300987704861159
Kurtosis Y = 2.4177973153847265

skewness of X = 0.0413908563058727
skewness of Y = -0.08255310826792216
```

Outliers

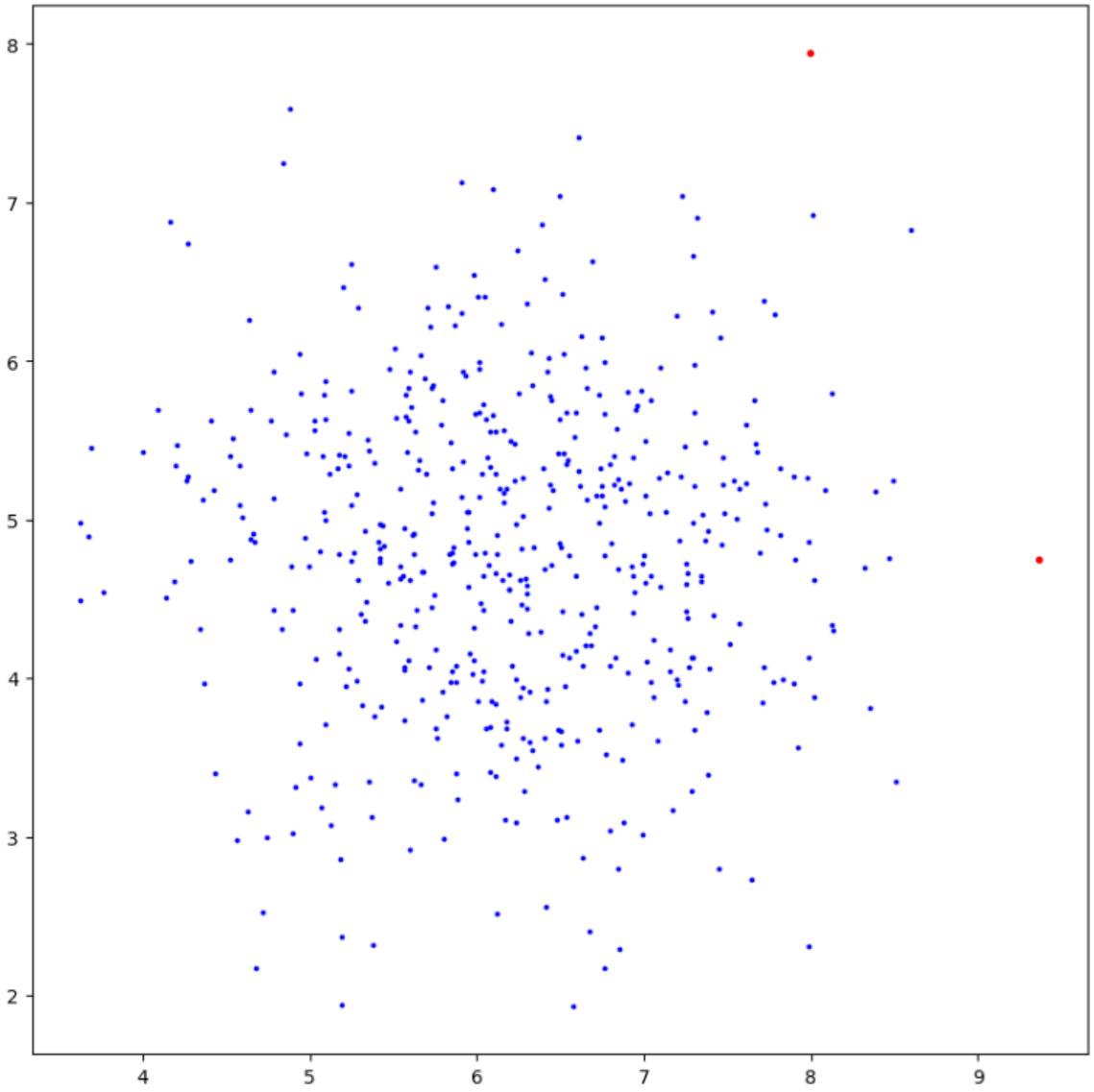
Outliers for data1 using Standard deviation:



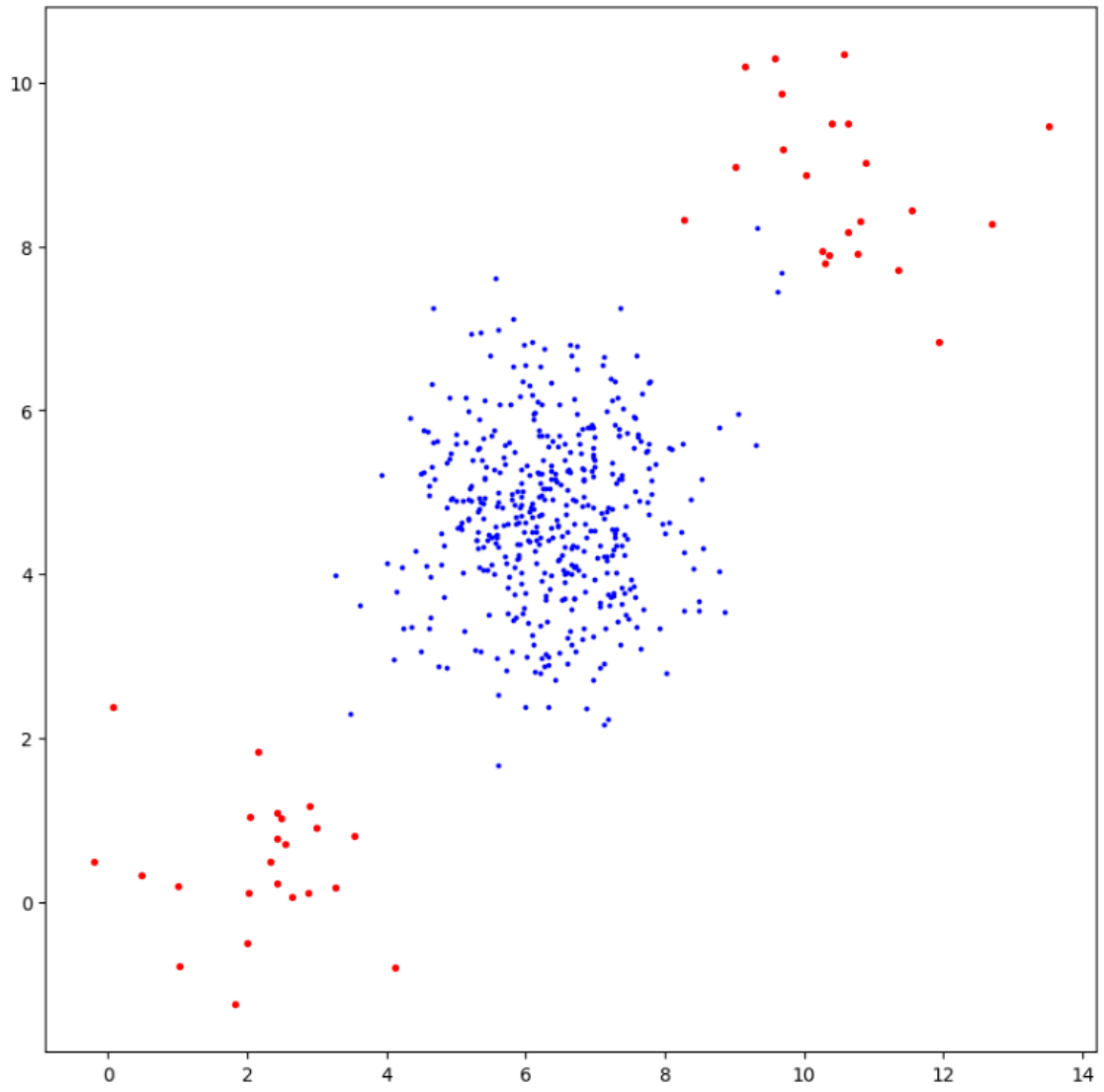
Outliers for data3 using Standard deviation:



Outliers for data1 using MAD approach:



Outliers for data3 using MAD approach:


10
8
6
4
2
0
0
2
4
6
8
10
12
14