**Functions and Methods**

**1 –ReadData():**

**2 –Sample():**

**3 –frequency():**

**4 –Labels():**

**5 - pie Chart ():**

Takes input from Variables and Frequency TextFields and Display a PieChart with the values entered **(You should enter Variables you want in Variables TextField with ',' between them, for example : A,B,C,D,E You should aslo enter integers in Frequency in Frequency TextField to indicate the Frequency for each variable respectivly, for example : 10,20,30,20,50)**

**6 - barChart():**

Takes input from Variables and Frequency TextFields and Display a BarChart with the values entered **(You should enter Variables you want in Variables TextField with ',' between them, for example : A,B,C,D,E You should aslo enter integers in Frequency in Frequency TextField to indicate the Frequency for each variable respectivly, for example : 10,20,30,20,50)**

**7 - histo():**

Takes input from Sample TextField and Displays a Histogram with the values entered **(You should enter variables you want in the Sample Textfield only which will be the sample for the histogram, for example: 3,5,2,1,2,2,3,5,4,2,1,4)**

**8 - scatterPlot():**

Takes input from Variables and Frequency TextFields and Display a ScatterPlot with the values entered **(You should enter Variables you want in Variables TextField with ',' between them, for example : A,B,C,D,E You should aslo enter integers in Frequency in Frequency TextField to indicate the Frequency for each variable respectivly, for example : 10,20,30,20,50)**

**9 - boxPlot():**

Takes input from Sample TextField and Displays a BoxPlot with the values entered **(You should enter variables you want in the Sample Textfield only which will be the sample for the histogram, for example: 3,5,2,1,2,2,3,5,4,2,1,4)**

**10 - showTable():**

Takes input from Variables and Frequency TextFields and Display a Table with the values entered that shows variables and their frequencies and percentage respectivly**(You should enter Variables you want in Variables TextField with ',' between them, for example : A,B,C,D,E You should aslo enter integers in Frequency in Frequency TextField to indicate the Frequency for each variable respectivly, for example : 10,20,30,20,50)**

**11 – X\_Values ():**

Takes input from (X) text field and split each value after ( , ) if you do not typing any value in text field it will get values from Excel file and append it in listX then return this list .

**for example: 1,2,3,…….**

**12 – Y\_Values ():**

Takes input from (Y) text field and split each value after ( , ) if you do not typing any value in text field it will get values from Excel file and append it in listY then return this list .

**for example: 1,2,3,…….**

**13 – corr\_comment (r):**

Takes value of correlation and check it and set comments on label , if it Perfect or Strong or Modrate or Weak.

**13 – Show \_R():**

Takes values from X\_Values , Y\_Values functions and set it in lists with name X and Y and calculate number of sample (N) , sum for (X) , sum for (Y) , sum for (XY) , sum for (X2) , sum for (Y2) , (sum for (X))2 and (sum for (Y))2 then get correlation and set label with its value and call function corr\_comment to set comment on its value .

**13 –Linear\_reg():**

Takes values from X\_Values , Y\_Values functions and set it in array with name X and Y , then get slop, intercept, r\_value, p\_value and std\_err from stats liberary which call function linregress that takes arrays x and y , set x\_axis and y\_axis from 0 to 100 and get the equation y = b1\*X + b0 which we calculate b1 = slop and b0 = intercept and draw this fitting line and set this equation on label.

**14 –MMM():**

**15 –IQR():**