**Functions and Methods**



**--->** this picture is a summary of whole methods in project(you can find it in .rar)

**1 –ReadData():**

this function read data from an excel file

**2 –Sample(): (*textfield number 3)***

Takes input from Sample TextFields 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)**

**returns list of sample**

**3 –frequency(): (*textfield number 2)***

if you entered data in frequancies textField , this methos returns a list of frequancies of Sample

**4 –Labels(): (*textfield number 1)***

Takes input from Variables with the values entered **(You should enter Variables you want in Variables TextField with ',' between them, for example : A,B,C,D,E**

**5 - pie Chart (): (*Button number 8)***

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(): (*Button number 9)***

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(): (*Button number 10)***

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(): (*Button number 11)***

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(): (*Button number 12)***

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(): (*Button number 15)***

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 (): (*Textfield number 4)***

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 (): (*Textfield number 5)***

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(): (*Button number 16)***

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(): (*Button number 17)***

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 –mean,median,mode(*Button number 13)***

Takes input from Sample TextField and Displays a mean,median and mode with the values entered **(You should enter variables you want in the Sample Textfield only for example: 3,5,2,1,2,2,3,5,4,2,1,4)**

**14 –Calculate IQR(*Button number 14)***

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

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