Lab5 Exercises

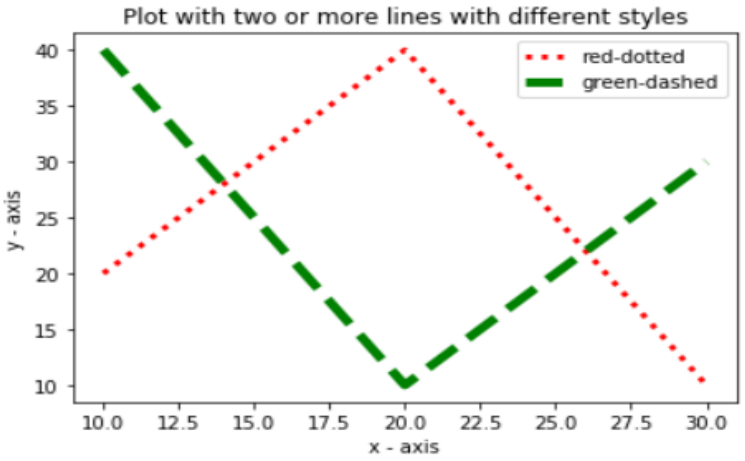
Task 1: Write a Python program to draw a line with suitable label in the x axis, y axis and a title. The values of y should be twice of x. The range of x: 1 to 30.

Task2: Write a Python program to draw line charts of the financial data of a company between October 3, 2016 to October 7, 2016.

Sample Financial data (fdata.csv) as it appears in the .csv file:
Date,Open,High,Low,Close
10-03-16,774.25,776.065002,769.5,772.559998
10-04-16,776.030029,778.710022,772.890015,776.429993
10-05-16,779.309998,782.070007,775.650024,776.469971
10-06-16,779,780.47998,775.539978,776.859985
10-07-16,779.659973,779.659973,770.75,775.080017

Task3: Write a Python program to plot two or more lines with legends, different widths and colours.

Task4: Write a program that will produce the following output.



Task5: Write a Python program to plot quantities which have an x and y position given the following arrays of x and y values:

x1 = [20, 30, 50, 60, 80]

y1 = [10, 50, 100, 180, 200]

x2 = [30, 40, 60, 70, 90]

y2 = [20, 60, 110, 200, 220]

Task 6: Write a Python program to create multiple plots.

Task 7: Write a Python programming to display a bar chart of the popularity of programming Languages.

Sample data on the popularity of programming languages 2019 according to IEEE:
Programming languages: Python, Java, C, C++, R, JavaScript, C#
Popularity: 100, 96.3, 94.4, 87.5, 81.5, 79.4, 74.5

Task 8: Write a Python programming to display a horizontal bar chart of the popularity of programming Languages

Task 9: Write a Python programming to display a bar chart of the popularity of programming Languages. Use different colour for each bar.

Task 10: Write a Python programming to display a bar chart of the popularity of programming Languages. Attach a text label above each bar displaying its popularity (float value)

Task11: Write a Python programming to create a pie chart of the popularity of programming Languages

Task 12: Write a Python programming to create a pie chart with a title of the popularity of programming Languages. Make three wedges of the pie.

Task 13: Create bar plot from the following DataFrame:

a b c d e

10,40,39,30,39
80,38,24,33,50
80,36,90,25,44
70,45,30,69,15
25,45,39,30,55

Task 14: Write a Python program to create bar plots with error bars on the same figure.

Sample Data
Mean velocity: 0.2474, 0.1235, 0.1737, 0.1824
Standard deviation of velocity: 0.3314, 0.2278, 0.2836, 0.2645

Task 15: Write a Python program to create a stacked bar plot with error bars,
Use bottom to stack the women's bars on top of the men's bars.

Sample Data:
Means (men) = (22, 30, 35, 35, 26)
Means (women) = (25, 32, 30, 35, 29)
Men Standard deviation = (4, 3, 4, 1, 5)
Women Standard deviation = (3, 5, 2, 3, 3)

Task 16: Write a Python program to draw a scatter graph taking a random distribution in X and Y and plotted against each other.

Task 17: Write a Python program to draw a scatter plot using random distributions to generate balls of different sizes.

Task 19: Write a Python program to draw a scatter plot comparing two subject marks of Java and Python.

Test Data:
java_marks = [88, 92, 80, 89, 100, 80, 60, 100, 80, 34]
python_marks = [35, 79, 79, 48, 100, 88, 32, 45, 20, 30]
marks_range = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]