

Seaborn is a Python data visualization library based on matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics. The questions below enforce you to explore the power of Python seaborn library package. It is quite challenging to memorize all function parameters when applying seaborn package in your program. There are various approaches to generate data visualization. Use existing documents, example programs, or other resources that can be located on the cloud to assist you in understanding on how to implement seaborn.

**Answer all questions below in one program and label your output appropriately.**

- a) Using dataset *workerstips.csv*, create a [scatterplot](#) with *total\_bill* as the x-axis and the *tips* as the y-axis.
- b) Using dataset *workerstips.csv*, create a scatter plot that will differentiate between smokers and non-smokers. Use a different color (hue) and style marker (style) to visually split the points of scatterplot. Because the default range sizes are limited, increase the range size. Try the tuple (10, 300) as the size range parameter.
- c) A simple [bar plot](#) will work well to show average tips per day of the week. Find out which day has the highest average tip. In this case, you may want to show the average tip (y-axis) per day of the week (x-axis).
- d) Repeat part (b) above but this time split the distribution by lunch and dinner. What information can you derive from the new visualization?
- e) Using dataset *flightData.csv*, create a [lineplot](#) to plot average number of passengers per year per month. Use the year on the x-axis and the passengers on the y-axis. Also, find out how to plot the total number of passengers per year.
- f) Using dataset *titanic.csv*, show the counts of observations in each categorical bin using bars plot.

### **Write a Learning Report Summary (LRS)**

Using Microsoft Word, write a summary report (not a bullet items) with a minimum of 100 words explaining how you completed your assignment. *Please describe your responses, not just yes/no answers.*

1. Did you successfully get your assignment done? Did it run? Any error? Did you get the correct result? Did you test your program thoroughly?
2. How much time did you spend to complete your assignment?
3. Did you find the assignment easy or challenging for you?
4. Did you write the program yourself? Did you get any help from anyone?

5. When you encountered obstacles to complete your program, how did you resolve the issues? Did you use Google to get help? Describe how Google was able or not able to assist you?
6. What did you learn from doing this assignment?
7. Any other information you would like to share with your instructor? Make sure you provide program output on each option.

**What to submit on blackboard**

Your program source code.

Your program output.

Your LRS.

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**Below shows what the graphs should look like:**

