**Seaborn Practice Worksheet**

**Exercise 1: Load and Inspect the Dataset**

1. Load the "tips" dataset from Seaborn's built-in datasets.
   * **Task:** Display the first 5 rows and get a summary of the dataset including the data types of each column.

**Exercise 2: Distribution Plot**

1. Create a histogram for the "total\_bill" column using **sns.histplot()**.
   * **Task:** Customize the histogram with a specific number of bins and add a title.

**Exercise 3: KDE Plot**

1. Create a kernel density estimate (KDE) plot for the "total\_bill" column using **sns.kdeplot()**.
   * **Task:** Add shading to the KDE plot and customize the color.

**Exercise 4: Joint Plot**

1. Create a joint plot of "total\_bill" and "tip" using **sns.jointplot()**.
   * **Task:** Use different kinds of joint plots like scatter, hex, and kde.

**Exercise 5: Pair Plot**

1. Create a pair plot of the "tips" dataset.
   * **Task:** Use different hue settings to differentiate based on "sex".

**Exercise 6: Bar Plot**

1. Create a bar plot showing the average total bill for each day using **sns.barplot()**.
   * **Task:** Add error bars to the bar plot to represent standard deviation.

**Exercise 7: Count Plot**

1. Create a count plot showing the number of occurrences for each day using **sns.countplot()**.
   * **Task:** Differentiate bars based on "sex" using the hue parameter.

**Exercise 8: Box Plot**

1. Create a box plot of "total\_bill" for each day of the week using **sns.boxplot()**.
   * **Task:** Add hue to differentiate based on "time" (Lunch/Dinner).

**Exercise 9: Violin Plot**

1. Create a violin plot of "total\_bill" for each day of the week using **sns.violinplot()**.
   * **Task:** Split the violin plot based on "sex".

**Exercise 10: Strip Plot**

1. Create a strip plot of "total\_bill" for each day of the week using **sns.stripplot()**.
   * **Task:** Differentiate points based on "sex" using hue and adjust jitter.

**Exercise 11: Swarm Plot**

1. Create a swarm plot of "total\_bill" for each day of the week using **sns.swarmplot()**.
   * **Task:** Add hue to differentiate based on "time".

**Exercise 12: Heatmap**

1. Create a correlation heatmap for the "tips" dataset using **sns.heatmap()**.
   * **Task:** Annotate the heatmap with correlation values.

**Exercise 13: Facet Grid**

1. Use **sns.FacetGrid()** to create a grid of plots showing the distribution of "total\_bill" separated by "sex".
   * **Task:** Create a histogram for each gender.

**Exercise 14: Linear Regression Plot**

1. Create a linear regression plot showing the relationship between "total\_bill" and "tip" using **sns.lmplot()**.
   * **Task:** Differentiate the regression lines based on "sex".

**Exercise 15: Multiple Linear Regression Plots**

1. Create multiple linear regression plots using **sns.lmplot()** for "total\_bill" vs. "tip", separated by "day".
   * **Task:** Use **col** parameter to create separate plots for each day.

**Exercise 16: Time Series Plot**

1. Use the "flights" dataset from Seaborn to create a line plot of the number of passengers over time.
   * **Task:** Plot passengers for each month separately using different colors.

**Exercise 17: Boxen Plot**

1. Create a boxen plot of "total\_bill" for each day of the week using **sns.boxenplot()**.
   * **Task:** Add hue to differentiate based on "time".

**Exercise 18: Point Plot**

1. Create a point plot of the average "total\_bill" for each "day" using **sns.pointplot()**.
   * **Task:** Differentiate points based on "sex" using hue.

**Exercise 19: Relational Plot**

1. Use **sns.relplot()** to create a scatter plot of "total\_bill" vs. "tip".
   * **Task:** Differentiate points based on "day" using hue and add a size parameter for "size".

**Exercise 20: Customize Plot Aesthetics**

1. Create a scatter plot of "total\_bill" vs. "tip".
   * **Task:** Customize the plot by setting the style to "whitegrid", changing the color palette, and adding titles and axis labels.