**EXPLORATORY DATA ANALYSIS-10**

**Dataset:**[Link](https://drive.google.com/file/d/1afLkuTgMtOpnMBV_vzjtS3-9AbwfSwFI/view?usp=share_link)

**Questions:**

1. Deal with the null, noise, and duplicate values in the dataset. Do not drop the null values instead fill it up with the appropriate values. Also, find the 5-point summary of all the numerical columns.
2. Standardize all column headers to lowercase. (” Year” will become ‘year’ and so on). Don’t do it manually for all the columns.
3. Find the unique values in all the columns at once.
4. Do the analysis to represent the top 10 countries that won the most medals in the Summer Olympics. Visualize it with the help of a chart.
5. Create a visualization to show the event with the most weighted medal count. Consider the weights of the Gold, Silver, and Broze medals to be 0.5,0.35 and 0.15
6. Plot a chart to show the top 10 disciplines with the most gold medals.
7. Create a table to show the different sports and the year in which it was first played in the Olympics.
8. How many unique sports do we have thus far, in Summer Olympics?
9. What is the number of Sports held per year in Summer Olympics, since 1896? Create a bar chart to show the same. Also, change the palette of bar plot to “summer” and saturation to “0.7”.
10. How is gender participation in Summer Olympics, since 1896? Create a 100% stacked bar plot to show the percentage of men and women in each year’s Olympics.
11. How many cities hosted the Summer Olympics games, since 1896?
12. How many cities in which the Olympics was conducted more than once?
13. Which country won the most gold medals, in each of the Olympics?
14. How many medals were won by women in Summer Olympics each year?
15. Top 5 countries to win most gold medals across all seasons collectively.
16. Create a function that takes the year as input and provides the top 5 countries to win the most gold medals in that year as an output. Also, plot a category plot for the same.
17. Create a data frame to show the Disciplines with the greatest number of Gold Medals
18. How is the variation of Male Athletes over time? Create a line plot to show the variation.
19. How has the number of athletes’ participation varied over time? Create a clustered column chart to show it for both genders.
20. How is the distribution of athletes, sports, and events across each Summer Olympics? Create subplots that show the distribution.