**EXPLORATORY DATA ANALYSIS-11**

[Dataset-:](https://drive.google.com/file/d/1xzZLGMpELgwVTB7eKmvUoEKK7uXC0YVF/view?usp=sharing)

1. Load the dataset and display the first 5 rows. What is the shape of the dataset?
2. Check for missing values in each column. If there are missing values, handle them appropriately.
3. Convert the 'Order Date' column to a datetime format. Then, create a line plot showing the trend of orders over time (month/year).
4. Calculate the total turnover for each category. Display the results in a bar chart.
5. Identify the top 5 products by quantity ordered. Create a horizontal bar chart to visualize this information.
6. Compute summary statistics (mean, median, std, min, max) for the 'Price Each' column.
7. Calculate the total turnover for each month in the dataset. Create a line plot to visualize the monthly turnover.
8. Visualize the distribution of 'Quantity Ordered' using a histogram.
9. Calculate and display the correlation matrix between 'Quantity Ordered,' 'Price Each,' and 'turnover.' Visualize the correlation matrix using a heatmap.
10. Create a scatter plot to investigate the relationship between 'Quantity Ordered' and 'turnover.'
11. Identify the top 5 products with the highest profit margin. Display the results in a bar chart.
12. Explore the distribution of 'margin' using a box plot.
13. Calculate the average 'Cost price' for each category. Create a bar chart to compare the average cost price across categories.
14. Create a pair plot (scatterplot matrix) to visualize relationships between 'Quantity Ordered,' 'Price Each,' 'Cost price,' and 'turnover.'
15. Calculate and visualize the total turnover for each year.
16. Identify the month with the highest turnover and display it along with the turnover value.
17. Calculate and display the total turnover for each city. You can extract the city from the 'Purchase Address' column.
18. Explore the relationship between 'Quantity Ordered' and 'Price Each' by creating a scatter plot with a regression line.
19. Calculate and visualize the turnover by day of the week.
20. Generate 10 insight different from above questions