

# **Lab Assignemnt-6**

## **Cognitive Computing UCS420**

### **Matplotlib and Seaborn**

Q1. Ask the user to enter a value (e.g., M) for a mathematical function.

- Generate x values from -10 to 10 using `np.linspace()`.
- Compute y values for:
  - $y = M \cdot x^2$
  - $y = M \cdot \sin(x)$
- Plot both functions in a single figure:
  - Use different colors and line styles.
  - Add legend, grid, and title.

Q.2 Create a dataset of five subjects and scores.

- Convert it into a Pandas DataFrame.
- Plot the scores using a Seaborn bar plot with:
  - Different colors for each bar.
  - Annotations on top of each bar.
  - Title, axis labels, and grid.

Q3. Write a Python script to select your roll number as seed for NumPy and then generate a dataset of 50 values using `np.random.randn()`.

- Create a 2x2 subplot layout displaying:
  - Line plot showing cumulative sum.
  - Scatter plot with random noise.
- Customize with titles, axis labels, and grids.

Q.4 Download Data-set from the below link

[https://github.com/AnjulaMehto/MCA/blob/main/company\\_sales\\_data.csv](https://github.com/AnjulaMehto/MCA/blob/main/company_sales_data.csv)

Apply 'seaborn' library to do the following.

1. Read Total profit of all months and show it using a line plot.
2. Read all product sales data and show it using a multiline plot.
3. Plot bar chart for all the features/attributes.