

## **Lab Assignment -1**

### **FALL SEMESTER (2025-2026)**

**Faculty Name: SAKTHIDEVI K**

**Slot: L13-L14**

1. Create a data frame containing information of 5 students with the following columns:

- Name (character)
  - Age (numeric)
  - Gender (character)
  - Passed (logical)
- Display the structure and summary of the data frame.

2. Prepare a small Excel file containing product sales data with the following columns:

- Product Name
  - Category
  - Units Sold
  - Price per Unit
- Import the data into R and calculate total sales for each product.

3. Use the inbuilt `mtcars` dataset.

- Display the structure of the dataset.
- Create a subset of cars that have more than 6 cylinders.
- Find the average `mpg` for these cars.

4. From the Excel data or a created dataset, convert the Category column into a factor.

- Show the levels.
- Count the frequency of each category using `table()`.

5. Subset the products that have a price greater than 100.

- Create a frequency table of Product Categories from this subset.

6. Use any dataset (your own or inbuilt) and generate the following plots:

- Scatter Plot: Plot `wt` vs `mpg` from `mtcars`.
- Box Plot: Create a boxplot for `mpg` grouped by `cyl`.
- Pie Chart: Pie chart showing number of cars in each `gear` category.
- Bar Chart: Bar chart showing average `mpg` for each `cyl` group.