

**Problem 1: Creating and Manipulating Vectors**

Task: Create a numeric vector `X` containing the elements 2, 4, 6, 8, and 10. Add 5 to each element of the vector and print the updated vector. Find the sum of the elements of the updated vector.

**Problem 2: Dataframe Manipulation**

Create a data frame with the following details:

- Name: "John", "Lisa", "Sara"
- Age: 28, 22, 32
- Department: "HR", "Finance", "Engineering"

Then:

1. Add a new row with Name: "Mike", Age: 29, Department: "Marketing".
2. Rename the "Age" column to "Employee\_Age".
3. Delete the "Department" column.

**Problem 3: Using If-Else Conditions**

Task: Write an R script that takes two numbers as input from the user and checks whether the first number is greater than, less than, or equal to the second number. Print the appropriate message for each case.

**Problem 4: Loop through a List**

Task: Create a list with 5 different numbers. Use a for loop to print each element in the list and the square of each element.

**Problem 5: Switch Case**

Write a switch-case program that takes a character input from the user and performs one of the following arithmetic operations on two predefined numbers (10 and 20):

- 'a' for addition
- 's' for subtraction
- 'm' for multiplication
- 'd' for division