### **Basic JavaScript**

# Types and Variables:

- 1. Write a program to check if a variable is of type "number".
- 2. Swap the values of two variables without using a temporary variable.
- 3. Calculate the area of a rectangle given its width and height as variables.

### Scope:

1. Explain the difference between global and local scope in JavaScript.

# **Data Types:**

- 1. Create a program that converts a string to a number.
- 2. Check if a given value is an array.
- 3. Find the length of a string without using the built-in length property.

# **Operators:**

- 1. Implement a calculator that can perform addition, subtraction, multiplication, and division.
- 2. Determine if a number is even or odd using a bitwise operator.
- 3. Write a program to check if a number is a multiple of another number.

#### **Conditions:**

- 1. Create a program that determines if a given year is a leap year.
- 2. Write a function that finds the maximum of three numbers.
- 3. Check if a number is positive, negative, or zero.

# Loops Part-1:

- 1. Calculate the factorial of a number using a while loop.
- 2. Print the first N natural numbers using a for loop.
- 3. Create a program to check if a number is prime.

### Loops Part-2:

- 1. Implement a do-while loop that asks the user for input until a specific condition is met.
- 2. Calculate the sum of even numbers from 1 to N using a loop.
- 3. Write a program that generates a Fibonacci series up to a given number.

### **Arrays:**

- 1. Find the sum of all elements in an array.
- 2. Reverse an array without using the reverse() method.
- 3. Remove duplicates from an array.

# **Objects:**

- 1. Create an object representing a person with properties like name, age, and address.
- 2. Implement a function that finds the number of properties in an object.
- 3. Merge two objects into a single object.

#### **Functions:**

- 1. Write a function to check if a given string is a palindrome.
- 2. Create a function that sorts an array of objects by a specific property.