CPAN 113 FUNDAMENTALS OF JAVASCRIPT

LAB 4: INTRODUCTION TO FUNCTIONS

# OBJECTIVES

1. Understand how to declare and invoke functions in JavaScript.
2. Learn to pass parameters and return values from functions.
3. Explore function expressions and arrow functions.
4. Understand the concept of closures and their applications.

# INSTRUCTIONS

Complete the following tasks. Each task should be written and tested in a JavaScript file (e.g., lab4.js).

# TASK 1 DECLARING FUNCTIONS

1. Write a function declaration to calculate the sum of two numbers and return the result.
2. Write a function expression to calculate the product of two numbers and return the result.
3. Write an arrow function to calculate the difference between two numbers and return the result.

# TASK 2 PASSING PARAMETERS

1. Write a function that accepts a variable number of arguments and returns their sum using the rest parameter.
2. Write a function that accepts a name parameter with a default value of "Anonymous" and returns a greeting message.
3. Write a function that uses the arguments object to calculate the sum of all passed arguments.

# TASK 3 RETURNING VALUES

1. Write a function that returns an object representing a person with name and age properties.
2. Write a function that returns true if a number is even and false if it is odd.
3. Write a function that returns undefined by omission.

# TASK 4 CLOSURES

1. Write a function that returns another function which prints a message. Demonstrate the closure by calling the inner function.
2. Write a function that creates a private counter using closures. The function should return an object with increment and decrement methods to modify the counter.

# SUBMISSION

1. Ensure your code is saved in a file named lab4.js.
2. Test your code by running it in a JavaScript environment (e.g., browser console or Node.js).
3. Submit your lab4.js file via the course submission portal.
4. Attach a screenshot of the output along with the original code file.