Lab Manual

Learning Functions in Shell Scripting

Introduction

Shell scripting is a powerful tool for automating tasks and managing systems. Functions in shell scripting allow you to organize your code into reusable blocks, improving readability and maintainability. In this lab manual, you will learn the fundamentals of creating and using functions in shell scripts.

Prerequisites

- Basic understanding of shell scripting
- Access to a Unix-like operating system (e.g., Linux, macOS)

Lab Environment Setup

No special setup is required for this lab. You can use any text editor and terminal emulator available on your system.

Lab Exercises

Exercise 1: Creating a Simple Function

1. Open a text editor and create a new file called **functionslab.sh**.
2. Define a simple function named **greet** that echoes a greeting message.
3. Save the file and exit the text editor.
4. Make the script executable

```
#!/bin/bash


# Define the greet function
greet() {
    echo "Hello, welcome to the functions lab!"
}


# Call the greet function
greet
```

Exercise 2: Passing Parameters to Functions

1. Modify the **greet** function to accept a name as a parameter.

```
# Define the greet function with a parameter
greet() {
    local name=$1
    echo "Hello, $name! Welcome to the functions lab!"
}

# Call the greet function with a name
greet "Alice"
```

Exercise 3: Returning Values from Functions

1. Create a function named **add** that takes two numbers as parameters and returns their sum.

```
# Define the add function
add() {
    local num1=$1
    local num2=$2
    local sum=$((num1 + num2))
    echo $sum
}

# Call the add function and store the result in a variable
result=$(add 10 20)
echo "The sum is: $result"
```

Exercise 4: Using Local Variables

1. Create a function named **multiply** that multiplies two numbers and stores the result in a local variable.

```
# Define the multiply function
multiply() {
    local num1=$1
    local num2=$2
    local product=$((num1 * num2))
    echo "The product is: $product"
}

# Call the multiply function
multiply 5 6
```

Conclusion

Congratulations! You have completed the functions lab and learned how to create and use functions in shell scripting. Functions allow you to modularize your code, making it easier to understand, maintain, and reuse. Experiment with more complex functions and integrate them into your shell scripts to enhance their functionality.