**Lab 2- Lambda Functions in Kotlin**

Below is a lab exercise on Lambda functions in Kotlin. The exercise covers the basics of lambda expressions, higher-order functions, and the use of lambdas in various scenarios. Feel free to use an IDE or an online Kotlin compiler to run the code.

// Lab Exercise: Lambda Functions in Kotlin

// Task 1: Declare a lambda function named 'add' that takes two integers as parameters

// and returns their sum.

val add: (Int, Int) -> Int = { a, b -> a + b }

// Task 2: Declare a lambda function named 'multiply' with explicit types for parameters

// and return type. It should take two integers and return their product.

val multiply: (Int, Int) -> Int = { x: Int, y: Int -> x \* y }

// Task 3: Declare a higher-order function named 'operateOnNumbers' that takes two integers

// and a lambda function as parameters. It should apply the lambda to the numbers and return the result.

fun operateOnNumbers(a: Int, b: Int, operation: (Int, Int) -> Int): Int {

return operation(a, b)

}

fun main() {

// Task 4: Call the 'add' lambda function and print the result.

val resultAdd = add(3, 5)

println("Sum: $resultAdd")

// Task 5: Call the 'multiply' lambda function and print the result.

val resultMultiply = multiply(4, 6)

println("Product: $resultMultiply")

// Task 6: Call the 'operateOnNumbers' function with different numbers and operations.

val resultSum = operateOnNumbers(8, 10, add)

println("Result using add function: $resultSum")

val resultProduct = operateOnNumbers(3, 7, multiply)

println("Result using multiply function: $resultProduct")

// Task 7: Declare and use a lambda function without parameters that prints a simple message.

val greet: () -> Unit = { println("Hello, Kotlin!") }

greet()

}

**Instructions:**

Declare the lambda functions 'add' and 'multiply' as instructed in the comments.

Implement the higher-order function 'operateOnNumbers' to apply a lambda function to two numbers.

In the main function, call the lambda functions and the 'operateOnNumbers' function with appropriate arguments.

Print the results to verify that the lambda functions and higher-order function are working correctly.

This exercise is designed to reinforce your understanding of lambda functions and their usage in Kotlin. Feel free to experiment with additional scenarios and modify the code as needed.