**Lab Assignment 1- For Loop in Kotlin**

**Objective:**

* To deepen your understanding of for loops and their advanced use cases in Kotlin.
* To practice working with nested loops, multi-dimensional arrays
* To integrate loops with conditionals and collection manipulations.

**Task 1: Matrix Multiplication**

**Matrix Multiplication using Nested for Loops:**

Write a Kotlin program to multiply two 2x2 matrices. Use nested for loops to calculate the product matrix.

Matrices A and B are predefined as:

val A = arrayOf(

intArrayOf(1, 2),

intArrayOf(3, 4)

)

val B = arrayOf(

intArrayOf(5, 6),

intArrayOf(7, 8)

)

val C = Array(2) { IntArray(2) }

Calculate the product matrix C such that C[i][j] = A[i][0] \* B[0][j] + A[i][1] \* B[1][j].