# Lab #2

**Assigned**: 18/04/2023

**Due**: 30/04/2022

**Implementation of a Nested Loop in MIPS Assembly**

In this assignment, you are expected to write a program that calculates the sum of the same elements of two positive integer arrays with 10 elements in MIPS Assembly. You may assume that the elements of arrays are always positive integers (you are not required to check the validity of the inputs). Arrays may be unsorted.

You are required to write two functions in MIPS Assembly:

1. The first function will take an array as a parameter. The function will return the number of different elements of the array. Also, it will create a list of the different elements in the allocated space.
2. The second function takes four parameters: The lists of different elements for the first and the second array; and the numbers of different elements for the first and the second array. The function will return the sum of the same elements in two arrays.

You can use “cs401\_lab2\_template.asm” file, which is provided in the assignment pack, as a template to develop your code.

(**Hint:** Before implementing the functions in MIPS Assembly, implement the functions in Python or any other high-level language and prefer using while loops instead of for loops for simplicity. )