# MIPS Programming Lab Assignment 3

Q1.    **SumMain($a0: &X, $a1: N, $v0: Sum)**
Write a function to find the sum of the main diagonal elements in a two dimensional N by N array of 32-bit words. The address of the array and the size N are passed to the procedure in registers $a0 and $a1 respectively. The result is returned in $v0. The values in registers $a0 and $a1 should not be modified by this procedure. Calculate the number of clock cycles required to execute your algorithm, assuming N=4..

Q2.    **Det($a0: &X, $v0: D)**
Write a function to find the determinant of a two by two matrix (array). The address of the array is passed to the procedure in registers $a0 and the result is returned in $v0. The value in register $a0 should not be modified by this function. Calculate the number of clock cycles required to execute your algorithm.

Q3.    Write a MIPS program to multiply two matrices. The two matrices are stored in the memory as two dimensional array in row-major order. The elements of the matrices are given in double-precisionfloating point format. Store the result matrix in the memory and print it.