

►Solution◄

Question 1: (15 points)

Assume that x , y , i , j are 32-bit integers, and that their values are stored in $\$s0$, $\$s1$, $\$s2$ and $\$s3$, respectively. Assume that A and B are vectors of integers, and that the base address of A is stored in $\$s4$ and the base address of B is stored in $\$s5$.

In the table below, indicate how many **load word (lw)** and how many **store word (sw)** instructions are necessary to execute each of the C statements.

C statement	load words (lw)	store words (sw)
$x = y * y$	►0◄	►0◄
$A[i] = x + y$	►0◄	►1◄
$x = A[i] + A[j]$	►2◄	►0◄
$B[i] = A[j]$	►1◄	►1◄
$x = y + A[B[j]]$	►2◄	►0◄
$A[B[j]] = x + y$	►1◄	►1◄