Homework Assignment #3

C335/A593  Fall 2020

0) Re-Read/Review Chapter 2 of the course textbook.

1) For the following MIPS assembly instructions, what is a corresponding C/C++ statement? (Use the fact that a is stored in $t0, b is stored in $t1, and c is stored in $t2.)

   addi $t2, $t0, -5
   add $t2, $t2, $t1

2) Write MIPS code to implement the following C/C++ command. Assume i is stored in $s0 and j is stored in $s1.

   j = i * 4;

3) For the following C/C++ statement, give the corresponding MIPS assembly code. Assume that the variables d, and e are assigned to registers $t0 an $t1, respectively. Assume the base address of the arrays J and K are in registers $s1 and $s2, respectively, and the final result should be placed in $s4.


4) Suppose register $t1 contains a value (a signed integer, call it x), and we want to compute the value of 3*x + 5 and store it in $s0. Write MIPS instructions to accomplish this. Note: Do not use the MIPS multiply instruction.

5) Assume that register $s2 holds the base address in memory of array ‘A’ and register $s3 holds the base address in memory of array ‘B’. Write MIPS code to swap the contents of A[2] with B[2].

TURN IN:

- Work is due at the start of the class period on the due date. Submit your word processor document (.doc/.docx format only) to the appropriate Canvas Assignments folder.