Computer Architecture I

Homework #1: Programming Assignment

Due date: Monday 10/11/2025 at 11:30 pm.

Total grade: 10 points

Write a SPIM code and execute it on MARS. Define three arrays: A, B, and C each of size 15 integers. Your program should read 15 *nonzero* integer values. Stop reading when 15 nonzero values are entered (ignore any zero value entered). Store all **negative** values in array A, all **positive-even** values in B, and all **positive-odd** values in C. You should end each array with 0 to indicate its end.

Then print the following on screen:

(1) Your name.

(2) The count of elements of each array.

(3) The elements in array A sorted in descending order.

(4) The average of values in array B.

(5) The maximum and minimum value in array C.

Note: You should have and use the following procedure in your program (you should follow SPIM conventions):

- A procedure that receives the base address of an integer array (the array is ended by 0 to indicate its end), the procedure should return the maximum and minimum value in the array