MIPS Programming – Homework

Due Date: December 3 (no late submission will be considered)

This homework must be done **INDIVIDUALLY**. **You need to practice because the Final Exam will be mostly coding.**

Before starting working on the homework read again the academic integrity policy. No YouTube videos or other sources.

Use ONLY instructions listed in the Integer Instruction Set

(especially when it comes to branches – use only beq, bne or comparisons to zero, NO blt, bgt, subi, no multi…) You can use li and move. You can use mul with 3 registers (mul $s1, $s2, $s3)
If you use lw or sw follow the correct syntax, the one in the Integer Instruction Set. It uses an offset value and not a label.

Note: for all programs that you will write be sure that you give a **detailed documentation.** Each program should be commented (documented) with the following information:

1. Your name
   Last modified date:
   Program name

2. Description (what the program does)
   C (or java) -pseudo-code

3. Registers Use (name of registers and what they will store)

Program1 (60 points)

Write a MIPS assembly language program that will cover the following steps:

Prompts the user to enter a first integer (int1) in the range [100, 250]
Prompts the user to enter a second integer (int 2) > -30
Compute: 4*int1+ 7*(int2 -9) // don't use *subi; don't use muli*
Print the value of the result together with a result message
Repeat

The program should enforce the rule that the two entered integers must be in the mentioned intervals. **If the entered integer is not in the specified range, the program prompts again the user to enter an integer in the specified range.**

Create a **sentinel** (sentinel value **999**) that will allow the user to exit the program.

Name your program: **yourlastname_h1.s**

Upload the homework on Blackboard under MIPS_H1

Program 2 (40 points)

Write a MIPS assembly language program that accomplishes the following tasks:

prompts the user to enter 10 integer values that will represent the elements of an array.
Populate the array with the given values.
Compute and display the sum and min of these elements.
Traverses and display in reverse order the elements of the array on one column

Name your program: **yourlastname_h2.s**

Upload the homework on Blackboard under MIPS_H1

No cheating and/or plagiarism are allowed.