MT01 ECE2560 Au 2021

Due date: Sunday Oct. 10, 11:59pm
Collaboration with other students is not allowed

Use Code Composer Studio and your Launchpad to write and execute one complete assembly language program to perform the following task. Use variables in RAM or values in core registers to store temporary values. Make sure to comment your program:

Place an array labeled *array* in FRAM with the following 16 bit signed decimal elements:
-31, 302, 0, -3, 289, -44, -321, 33, 221, -99
Hint: to use signed decimals in CCS use the following syntax:
array: .word -31, 302, 0, -3, 289, -44, -321, 33, 221, -99

Create a 16 bit variable named *max* in RAM with an initial value of 0
Task: Use a single *for loop* (alternate implementation, page 15, lesson 11) and a single *if statement* (alternate implementation, page 9, lesson 11) to find the value of the array element which has the maximum value among all the elements of the array, and store this maximum value in the variable *max*. It is a requirement that you use the structure for the *for loop* and *if statement* (alternate implementations) as described in lesson 11.

Note: Use the *Indexed addressing mode* to access the elements of the array. Use the *register addressing mode* to access the values stored in core registers. Use the *absolute addressing mode* to access the values stored in variables. Use *immediate addressing mode* for constants and literals. Your program should be complete following all the practices taught in the class. Although all screencasts are important, specifically watch screencasts 10, 11, 12 for relevant material.

Use the word template and instructions contained on our web site to submit your code and screenshots to Carmen in Word format. Do not email directly to your TA or me. Files emailed to the TA or me will not be accepted. Include the following in your submission:

  i) Figure containing the flow chart
 ii) Assembly language source code
iii) Screenshot of the "General" tab of the properties screen of your project. Note: In CCS, right click on your project folder in "project browser" and choose "properties" to get to the properties screen.
iv) In the debugger execute your program (green play button) and pause (suspend) it. While the program is paused (suspended) take the following screenshots (use 16 bit Signed Int to display the data as decimal numbers):
Screenshots of the memory browser showing *array* and *max*.