CSCI-21 Assignment #7 due 4/24/19

Exercise 1 -- Arithmetic Evaluation (stack-based)

Write a program to evaluate 3ab - 2bc - 5a + 20ac - 16

Prompt the user for the values for a, b, and c, all single-precision floating-point values. To evaluate this, use as few registers as possible. Use the stack to hold all of the intermediate values. Write the final value to the monitor with an appropriate descriptive message.

Exercise 2 -- Simple subroutines (registers and JAL-based)

Write a program that loops through 10 iterations, in each pass prompting the user for two floating-point numbers (in a subroutine – call it twice, returning the value in $f0), calculating the product of the two numbers (also in a subroutine, passing in the values in $f12 and $f14 and returning the value in $f0) and printing the product (also in a subroutine, passing in the value in $f12). You will have three little subroutines and your loop will make four subroutine calls per iteration. See the book for $f register usage with subroutines.

Use the "simple linkage convention" discussed in class (no stack use, use appropriate registers for arguments and return values).