CSCI 4720 Computer Organization and Architecture
Assignment 5 due Monday, October 28, 2013 (midnight)

Implement the following programs using the SPIM/XSPIM/PCSPIM simulator.

Program 1
Determine the number of occurrences of a specific character in a string. The character and the string are input by the user. The program should output

Character <ch> occurs in string <string> <n> times

Program 2
In a string substitute all occurrences of a specific character by another pre-specified character. Both characters and the string are input by the user. The program should output

Original string: <string>
Substitute <ch> → <ch>
Result string: <string>

Program 3
Compute the sum, maximum and minimum of *n* integers. The value of *n* and the integers are input by the user. The program prompts the user for the value of *n* and each number thereafter. The output of the program is

The sum of the <n> integers is <sum>
The maximum value is <max>
The minimum value is <min>

More Information: A detailed document on SPIM/XSPIM can be downloaded from the course web page **www.cs.uga.edu/~cs4720**. Programming tutorials on SPIM/XSPIM can be downloaded from (among others listed on the course web page)
http://chortle.ccsu.edu/AssemblyTutorial/index.html and
http://www.cs.wisc.edu/~larus/spim.html

Submission instructions: Create a directory csci4720 for the course in your home directory. Create a separate subdirectory for each programming assignment. For example, assign6 would be the subdirectory for the current assignment. The subdirectory for each assignment contains all the files pertaining to the assignment. **Include a README file explaining what each file contains. Be liberal in commenting your assembly language programs. Mention in the README file what version of SPIM is being used (SPIM/XSPIM/PCSPIM).** Submit your assignment using the submit command to the account cs4720 on nike@cs.uga.edu