45 pts

Name: _____

Class Day / Time: _____

Due Date: _____

Assignment #6 – Assembly - Recursive Procedure for Fibonacci Series

In this assignment you will create and implement a recursive procedure to calculate a Fibonacci Series. Fibonacci series is a series of numbers that are found by adding the two preceding (previous) numbers. The Fibonacci series can be determine by:

fib(n) = fib(n-1) + fib(n-2)
fib(0) = 1
fib(1) = 1
For example the Fibonacci Series for n equal 9 is: 0,1,1,2,3,5,8,13,21

Implement the recursive procedure in assembly language and write a test program that calls the procedure. The program will perform the following steps:

1) You will **input one positive integer** from the console and store them in memory. Label the memory locations for the integers as *inputNum*.
2) Call the recursive procedure Fibonacci passing the integer number to obtain the Fibonacci Series. The procedure will use the recursive method and calculate the Fibonacci Series; display in the console the result from each recursive call until the final result (series) is obtained. Hint: How to display the complete series: it can be achieved by displaying the result of each recursive return call.
3) Once the procedure returns to the main program, terminate the program.

Draw a flowchart and **write the corresponding assembly language program** in the flowchart for the program you are implementing. It is not necessary to indicate memory locations in the flowchart, but include **all the variable** declaration as part of the flow chart.

Implement the program; test the program a number of times with different input numbers. You will need to turn in **four** test runs for the program. Select four positive integer numbers between 0 and 50.

Turn in (STAPLED IN THIS ORDER)

1. The **FIRST PAGE** of this assignment as a coversheet
2. Include the **flowchart** properly documented. The listing of **.asm source code** properly documented.
3. The **four** output from the program, either pasted into .asm source code or using print screen.