Assignment 4 for Computer Architecture

You are to write a program in MIPS that computes N! using a loop. Remember N! is the product of all the numbers from 1 to N inclusive, that is 1 x 2 x 3 x (N – 1) x N. It is defined as 1 for N = 0 and is undefined for values less than 0.

The program first requests the user to input the value of N (display a prompt first so the user knows what to do). If the input value is less than 0, the program is to display “N! undefined for values less than 0” and request input again. If the value input is non-negative, it is to compute N! using a loop.

You are to have your name, the assignment number, and a brief description of the program in comments at the top of your program. Since this is an assembly language program, I expect to see comments on almost every line of code in the program. Also make the code neat (line up the commands and comments in nice columns) if you want full credit (see page 134 in your text for a nice example).

You are to turn in your code, an observations file with what you learned doing the assignment and roughly how long it took you to do it, and a screenshot of a test run of your program. This all is to be turned in on the class website DropBox for the problem.

The program is worth 20 points and is due October. 14.

Note that this, and all assignments in this class, is an individual assignment, you are not to work with someone on it. It is OK to ask for and to give some help for a problem within the assignment, but the work must be your own. Also note that you may freely use any code that I have posted out on class website or that is in our textbook.