Department of Electrical and Computer Engineering

EEC70   **Assembly Language and Computer Organization**   Winter 2001
Program Assignment#4

Due on Tuesday, March 13 at 11:59 P.M.

The main goal of this simple programming assignment is for you to become familiar with procedures in DLX by writing a modular program.

You will write a program that takes a positive integer (n) and computes:

$$x = n^n - (1+2+3+\ldots+n)n!$$

You aren't allowed to use any R-type arithmetic instructions (add, mult, sub). Instead you should simulate their functions using other instructions. For addition and multiplication, you may just apply the procedures you developed in the programming assignment#3 and for exponent you can use the procedure you developed for the second programming assignment. Your program should be quite modular, thus you need to have a procedure for each of these operations:

1. Factorial
2. Exponent
3. Multiplication
4. Addition
5. Subtraction
6. Computing the summation of the fist n positive integers

Your program should continue getting a new value for n after each computation until the user enters zero which would be the end for your program.