CS2610: Computer Organization and Architecture Lab

Lab Assignment - 3

9-02-2022

1 Problem - Ackermann's Function

The two-argument Ackermann's function A(m,n), where $m \geq 0$ and $n \geq 0$, is defined as

$$\begin{aligned} A(0,n) &= n+1 \\ A(m+1,0) &= A(m,1) \\ A(m+1,n+1) &= A(m,A(m+1,n)) \end{aligned}$$

Write a recursive procedure to compute this function. Your main program should handle the user interface to request m and n and display the final result.

1.1 Sample input and output

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1

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2 Submission Guidelines

- Write the code with proper comments wherever necessary and maintain proper indentation.
- Name the program with your roll no. Ex: If your roll no is CS20B001, your file name should be CS20B151.asm. If there are multiple files, use CS20B151_1.asm, CS20B151_2.asm etc.
- Place all the required files in a folder and compress the folder using zip compression. Name your folder in the following format. If your roll no is CS20B151, name it as CS20B151_A$.zip, where '$' denotes the assignment number.