

CSC 261: Computer Organization and Assembly Language  
Summer 2019  
Assignment 3

---

**Note:** Create one Visual Studio solution per each question. Make sure to rename the folders, say Question 1, Question 2, etc. Put all of them in a folder with the name Assignment-3, zip it and upload it to Canvas. **Do not forget to put comments.**

**Question 1 (25 points):** Using the windows32 framework, modify the program in Figure 4.12 in your book to use the input macro to prompt for and input values for  $x$ ,  $y$ , and  $z$ , and the output macro to display an appropriate label and the value of the expression. You will also use the data conversion macros from `io.h` as appropriate.

**Question 2 (25 points):** Using the console32 framework, write a complete assembly language program that computes in EAX the perimeter ( $2 * \text{length} + 2 * \text{width}$ ) of a rectangle where the length and width are in memory doublewords.

**Question 3 (25 points):** Using the windows32 framework, write a complete 80x86 assembly language program that prompts for and inputs the length, width, and height of a box and computes and displays its volume ( $\text{length} * \text{width} * \text{height}$ ).

**Question 4 (25 points):** Using the windows32 framework, write a program to evaluate the value of the following real valued function. Make sure to print the output using a message box.

$$f(x, y, z) = x^4 + y^3 + z + (x + y)^4 z$$

**Note:** Your program should read  $x$ ,  $y$  and  $z$  from the keyboard.