Homework #2
Due 06/23/2003

Given the following data declarations:

```assembly
_segment public byte 'data'
str1 db  "This is a zero terminated string",0
str2 db  64 dup (?)
len1 dw  ?
um1 dw  1234h,2345h,3456h,4567h
num2 dw  5678h,6789h,789Ah,89ABh
_ends
```

Problem 1) (25 points)
Referring to the above data declarations, write a fragment of x86 assembly language code to count the number of characters in the string ‘str1’, not including the terminating 0, and place the count value in variable ‘len1’. (Assume that DS is set up to access _data)

Problem 2) (25 points)
Referring to the above data declarations, write a fragment of x86 assembly language code to copy the string ‘str1’ to the memory buffer ‘str2’. (Assume that DS is set up to access _data)

Problem 3) (25 points)
Referring to the above data declarations, write a fragment of x86 assembly language code that performs a 64 bit precision addition of num1 to num2, leaving the result in num2.

Problem 4) (25 points)
Registers AX, BX, CX, DX contain the values 1111h, 2222h, 3333h, and 4444h. What are the contents of each register after the following sequence of instructions has executed?

```
push ax
push cx
push bx
push dx
pop ax
pop cx
pop bx
pop dx
```