Name: KEY **Id#**

COE 205, Term 101

Computer Organization & Assembly Programming

Quiz#5

Date: Wednesday, Dec. 15, 2010

(Q1) Suppose that we would like to create a pseudo instruction to add two 32-bit memory operands called ***addm32***. Write a macro for this pseudo instruction assuming that both operands are of the same size. The macro should preserve the content of all used registers. Then, show how to use the macro for adding the two 32-bit variables i and j.

```
addm32 MACRO  i, j
        push eax
        mov eax, j
        add i, eax
        pop eax
ENDM
Addm32 i, j
```

(Q2) Write a macro, ArrayMax, that receives as arguments the address and length of an array of integers and displays the maximum value in the array. The macro should preserve the content of all used registers.

```
ArrayMax MACRO AAdress, Alength
LOCAL Next, Skip
        push ecx
        push esi
        push eax
        mov ecx, Alength-1
        mov esi, AAdress
        mov eax, [esi]
Next:
        add esi, 4
        cmp eax, [esi]
        jge Skip
        mov eax, [esi]
Skip:
        loop Next
        call WriteInt
        pop eax
        pop esi
        pop ecx
ENDM
```