Name: KEY Id#

COE 205, Term 101

Computer Organization & Assembly Programming

Quiz#5

Date: Wednesday, Dec. 15, 2010

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# **(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