

Name: KEY

Id#

COE 205, Term 071
Computer Organization & Assembly Programming
Quiz# 4

Date: Saturday, Nov. 24, 2007

Q1. You required to write a procedure, **COPY**, that copies one array into another. The addresses of the two arrays, their length and type should be passed as parameters on the stack. The procedure should preserve all used registers and should free all parameters upon return. Use the procedure **COPY** to copy Array1 into Array2 assuming that they are declared as arrays of 100 words.

```
.DATA
Array1 Word 10 DUP (20)
Array2 Word 10 DUP (0)
.CODE
main PROC
    LEA EAX, Array1
    PUSH EAX
    LEA EAX, Array2
    PUSH EAX
    MOV EAX, lengthof Array1
    PUSH EAX
    MOV EAX, Type Array1
    PUSH EAX
    CALL COPY
    exit ; exit to operating system
main ENDP
COPY PROC
    PUSH EBP
    MOV EBP, ESP
    PUSHAD ; saving registers
    MOV EAX, [EBP+8] ; array type
    MOV ECX, [EBP+12] ; length of array
    MUL ECX ; EAX contains number of bytes to be copied
    MOV ECX, EAX
    MOV EDI, [EBP+16] ; address of destination array
    MOV ESI, [EBP+20] ; address of source array
    MOV EAX, 0
Next:
    MOV BL, [ESI+EAX]
    MOV [EDI+EAX], BL
    INC EAX
    LOOP Next
    POPAD ; restoring registers
    POP EBP ; restore EBP
    RET 16
COPY ENDP
END main
```