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Subject: A Language

Submitted To

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QND1: What will be the value of the destination operand after each of the following instructions execute in sequence?

data:

val1 word 1000h

val2 word 2000h

arrayB BYTE 10h, 20h, 30h, 40h, 50h

arrayW word 100h, 200h, 300h

arrayD dword 1000h, 2000h

code:

mov bx, 0A69Bh

movzx cx, bl

; (a) cx = 009Bh

movsx cx, bl

; (b) cx = FF9Bh

mov ax, val1

xchg val2, ax

; (c) val2 = 1000h

mov al, [arrayB+1]

; (d) AL = 20h

mov ax, [arrayW+2]

; (e) AX = 200h

mov eax, [arrayD+4]

; (f) EAX = 2000h

QNO2: Write down the value of destination operands and flags after the execution of each instruction.

code

mov cx, 1

sub cx, 1 ; (a) cx = 0 ZF = 1

mov cx, 0

sub cx, 1 ; (b) cx = -1 SF = 1

mov al, 0FFh

add al, 1 ; (c) AL = 00 CF = 1

mov al, 0

sub al, 1 ; (d) AL = FF CF = 1

mov al, 7Fh

add al, 1 ; (e) AL = 80h OF = 1

mov al, -128

neg al ; (f) CF = 0 OF = 0

QNO 3 What will be the value of EAX after each of the following instruction execute?

• data

myBytes Byte 10h, 20h, 30h, 40h

myWords Word 3 Dup(?), 2000h

myString BYTE "ABCDE"

• code

mov eax, TYPE myBytes ; (a) EAX = 1

mov eax, LENGTHOF myBytes ; (b) EAX = 4

mov eax, SIZEOF myBytes ; (c) EAX = 4

mov eax, TYPE myWords ; (d) EAX = 2

mov eax, ~~SIZEOF~~ myWords ; (e) EAX = 4
LENGTHOF

mov eax, SIZEOF myWords ; (f) EAX = 8

mov eax, SIZEOF myString ; (g) EAX = 5

Q4 Write down the value of each destination operand.

· data

val32 LABEL WORD

var B BYTE 78h, 56h, 34h, 12h

· val 8 LABEL BYTE

· var D DWORD (12345678) ~~5678~~

· code

mov bl, BYTE PTR var D (a) BL = 1

mov eax, DWORD PTR var B (b) EAX = 1

mov al, val 8 (c) AL = 0

mov eax, val32 (d) EAX = 1

Ques What will be the value of destination operand after each of the following instructions execute in sequence?

· data

myBytes BYTE 10h, 20h, 30h, 40h

myWords WORD 8Ah, 3Bh, 72h, 44h, 66h

myDoubles DWORD 1, 2, 3, 4, 5

· code

move esi OFFSET myBytes

mov al, [esi + 3]

i (a) AL = 40h

mov esi, OFFSET myWords + 2

mov ax, [esi]

j (b) AX = 003Bh

mov edi, 8

mov edx, myDoubles [edi] i (c) EDX =

Q No 7

(a) if (var1 <= var2)

var3 = 128;

else

{
var3 = 110;

var4 = 90;

}

AL code

mov eax, var1
cmp eax, var2

JLE L1

mov var3, 110

mov var4, 90

L1: mov var3, 110

L2:

(b) if (var1 > ecx) or

(ecx > edx) then

x = 30

else

x = 40

cmp var1, bl

Ja L1

jmp next

L1:

cmp ecx, edx

Ja L2

jmp next

L2:

mov x, 1

next:

(c) while (eax < ebx)

eax = eax + 1;

Ans

while: cmp eax, ebx

jae - endwhile

inc eax

cmp ebx, ecx