CSC 3210

Spring 2022

Assignment 3

Solution

Question 1.

﻿.386

.MODEL flat, stdcall

.STACK 4096

ExitProcess Proto, dwExitCode:DWORD

.DATA

inputstr BYTE 'A','B','C','D','E','F','G','H'

.code

main PROC

mov ecx, 4

mov esi, 0

mov edi, Lengthof inputstr

dec edi

L1:

mov al, inputstr[esi]

xchg al, inputstr[edi]

mov inputstr[esi], al

inc esi

dec edi

Loop L1

mov ecx, 4

mov esi, 0

L2:

mov al, inputstr[esi]

xchg inputstr[esi+1], al

mov inputstr[esi], al

add esi, 2

Loop L2

INVOKE ExitProcess, 0

main ENDP

END main

Question 2.

﻿.386

.model flat, stdcall

.stack 4096

ExitProcess PROTO, dwExitCode:DWORD

.data

qVal QWORD 0506030704080102h

.code

main PROC

mov ax, 0

add ax, WORD PTR qval

add ax, WORD PTR [qval+2]

add ax, WORD PTR [qval+4]

add ax, WORD PTR [qval+6]

INVOKE ExitProcess, 0

main ENDP

END main

Question 3.

If you code it correctly, at the end var1 = 9, var2 = 10 and var3 = 11

﻿.386

.MODEL flat, stdcall

.STACK 4096

ExitProcess Proto, dwExitCode:DWORD

.DATA

var1 DWORD 10

var2 DWORD 11

var3 DWORD 12

.code

main PROC

mov eax, var1

mov ebx, var2

mov ecx, var3

cmp eax, var2

JG if\_block ; when condition var1>var2 is TRUE, enter if block

cmp ecx, ebx ; when condition is false (var1<=var2), check second conditiond

JGE else\_block ; when conditon is FALSE, var3>=var2, enter else\_block

;otherwise enter if block

if\_block:

add ebx, ecx

mov var1, ebx

inc var2

inc var3

JMP next

else\_block:

dec var1

dec var2

dec var3

Next:

INVOKE ExitProcess, 0

main ENDP

END main