

CSC 3210
Spring 2024
Assignment 4
Solution

Question 1.

```
.386
.model flat, stdcall
.stack 4096

ExitProcess PROTO, dwExitCode:DWORD

.data
    dVal DWORD 04080102h

.code
main PROC

    mov al, 0
    add al, BYTE PTR dval
    add al, BYTE PTR [dval+1]
    add al, BYTE PTR [dval+2]
    add al, BYTE PTR [dval+3]

    INVOKE ExitProcess, 0
main ENDP
END main
```

Question 2.

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 condition
    JGE else_block   ; when condition 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
```