

COAL LAB 5 TASK

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Task 1:

Code:

```
TITLE "24K-0656 Adnan"
INCLUDE Irvine32.inc

.data

.code
main proc
    mov EAX, 15000
    ADD EAX, 1

    call DumpRegs

    exit
main ENDP
END main
```

Output:

Microsoft Visual Studio Debug Console

```
EAX=00003A99  EBX=00639000  ECX=00101FE0  EDX=00101FE0
ESI=00101FE0  EDI=00101FE0  EBP=0095F788  ESP=0095F77C
EIP=00101FED  EFL=00000206  CF=0   SF=0   ZF=0   OF=0   AF=0   PF=1
```

Task 2:

Instructions	CF	SF	ZF	OF
mov AX, 0A7F0h	0	0	0	0
add AL, 15h	1	0	0	0
add AH, 1h	0	1	0	0
add AX, 2h	0	1	0	0

Task 3:

Code:

```
TITLE "24K-0656 Adnan"
INCLUDE Irvine32.inc

.data
    array1 WORD 45, 32, 71, 44, 92
    array2 WORD 5 DUP(?)
    spaceStr BYTE " "

.code
main3 proc
    mov esi, OFFSET array1
    mov ecx, 5
    printArray:
        movzx EAX, WORD PTR [esi]
        call WriteDec
        mov EDX, OFFSET spaceStr
        call WriteString
        add esi, 2
        loop printArray
    call Crlf

    mov esi, OFFSET array1
    mov edi, OFFSET array2

    mov AX, [esi + 2]
    mov [edi], AX ; 32

    mov AX, [esi + 6]
    mov [edi+2], AX; 44

    mov AX, [esi]
    mov [edi+4], AX ; 45

    mov AX, [esi + 4]
    mov [edi+6], AX ; 71

    mov AX, [esi + 8]
    mov [edi+8], AX ; 92

    mov esi, OFFSET array2;
    mov ecx, 5
    printArray2:
        movzx EAX, WORD PTR [esi]
        call WriteDec
        mov EDX, OFFSET spaceStr
        call WriteString
        add esi, 2
        loop printArray2

    exit
main3 ENDP
END main3
```

Output:

```
Microsoft Visual Studio Debu
45 32 71 44 92
32 44 45 71 92
D:\Adnan\FAST UNIVERSIT
Press any key to close
```

Task 4:

Code

```
TITLE "Adnan Hatim 24K-0656"
INCLUDE Irvine32.inc

.data
    arrayB BYTE 25, 45, 65
    arrayW WORD 155, 185, 225
    arrayD DWORD 645, 690, 735

    SUM1 DWORD ?
    SUM2 DWORD ?
    SUM3 DWORD ?

.code
main4 proc
    movzx AX, BYTE PTR arrayB[0]
    mov BX, arrayW[0]
    add AX, BX
    movzx EAX, AX
    add EAX, arrayD[0]
    mov SUM1, EAX

    movzx AX, BYTE PTR arrayB[1]
    mov BX, arrayW[2]
    add AX, BX
    movzx EAX, AX
    add EAX, arrayD[4]
    mov SUM2, EAX

    movzx AX, BYTE PTR arrayB[2]
    mov BX, arrayW[4]
    add AX, BX
    movzx EAX, AX
    add EAX, arrayD[8]
    mov SUM3, EAX

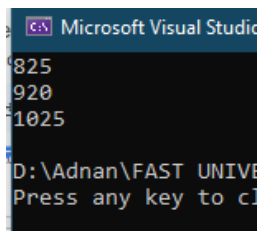
    mov EAX, SUM1
    call WriteDec
    call CrLf

    mov EAX, SUM2
    call WriteDec
    call CrLf

    mov EAX, SUM3
    call WriteDec
    call CrLf

    exit
main4 ENDP
END main4
```

Output:



Microsoft Visual Studio

```
825
920
1025

D:\Adnan\FAST UNIVER
Press any key to c
```