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**LAB: 04**

**ROLL No: 17K-3795**

**Question: 01**

TITLE Task 1

INCLUDE Irvine32.inc

.data

arrayD DWORD 61,43,11,52,25

.code

main proc

mov esi,OFFSET arrayD

mov ebx,[esi+2\*TYPE arrayD]

xchg [arrayD],ebx

xchg [arrayD+4\*TYPE arrayD],ebx

xchg [arrayD+1\*TYPE arrayD],ebx

xchg [arrayD+2\*TYPE arrayD],ebx

mov ecx,5

mov edx,OFFSET arrayD

mov eax,[edx]

l1:

call writedec

call crlf

add edx,TYPE arrayD

mov eax,[edx]

loop l1

exit

main ENDP

END main

**Question: 02**

TITLE Task 2

INCLUDE Irvine32.inc

.data

arrayB BYTE 5,6,2

arrayW WORD 15,5,10

arrayD DWORD 60,12,18

PROD1 DWORD ?

PROD2 DWORD ?

PROD3 DWORD ?

.code

main proc

mov esi,OFFSET arrayB

mov edi,OFFSET arrayW

mov edx,OFFSET arrayD

mov eax,[edx]

mov ebx,0

mov bx,WORD PTR [edi]

movzx ebx,bx

mul ebx

mov ebx,0

mov bl,BYTE PTR [esi]

movzx ebx,bl

mul ebx

mov PROD1,eax

call writedec

call crlf

mov edx,OFFSET arrayD+TYPE arrayD

mov eax,[edx]

mov ebx,0

mov bx,WORD PTR [edi+TYPE arrayW]

movzx ebx,bx

mul ebx

mov ebx,0

mov bl,BYTE PTR [esi+TYPE arrayB]

movzx ebx,bl

mul ebx

mov PROD2,eax

call writedec

call crlf

mov edx,OFFSET arrayD+2\*TYPE arrayD

mov eax,[edx]

mov ebx,0

mov bx,WORD PTR [edi+2\*TYPE arrayW]

movzx ebx,bx

mul ebx

mov ebx,0

mov bl,BYTE PTR [esi+2\*TYPE arrayB]

movzx ebx,bl

mul ebx

mov PROD3,eax

call writedec

call crlf

exit

main ENDP

END main

**Question: 03**

TITLE Task 3

INCLUDE Irvine32.inc

.data

x SBYTE ?

y SBYTE ?

w SBYTE ?

u SBYTE ?

v SBYTE ?

z SBYTE 0

.code

main proc

mov eax,0

mov al,z

add al,x

add al,y

add al,w

NEG v

add al,v

add al,u

call writedec

call crlf

exit

main ENDP

END main

**Question: 04**

TITLE Task 4

INCLUDE Irvine32.inc

.data

array1 BYTE 10, 20, 30, 40

array2 WORD 4 DUP(?)

.code

main proc

mov esi,OFFSET array1+LENGTHOF array1-1\*TYPE array1

mov edi,OFFSET array2

mov ecx,4

l1:

mov eax,0

mov al,BYTE ptr [esi]

movzx ax,al

mov [edi],ax

sub esi,TYPE array1

add edi,TYPE array2

loop l1

mov esi,OFFSET array2

mov ecx,4

l2:

mov eax,0

mov ax,word ptr [esi]

add esi,TYPE array2

call writedec

call crlf

loop l2

exit

main ENDP

END main