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**K17-3922**

**Section: E**

**Coal Lab 3**

**Q1:**

INCLUDE Irvine32.inc

.DATA

x byte 5;

y byte 3;

.code

main proc

mov eax,0

mov ebx,0

mov al,x

inc al

mov bl,y

dec bl

sub al,bl

add al,y

mov x,al

call DumpRegs

exit

main endp

end main

**Q2:**

INCLUDE Irvine32.inc

.DATA

val1 sword 8

val2 sword 15

val3 sword 20

.CODE

main proc

mov ax,val2

neg ax

add ax,7

mov bx,val3

sub ax,bx

add ax,val1

call DumpRegs

exit

main endp

end main

**Q3:**

INCLUDE Irvine32.inc

.DATA

a byte 4

area byte ?

.CODE

main PROC

mov eax,0

mov ebx,0

mov bl,area

mov bl,1

mov al,a

mul al

mov bl,al

call DumpRegs

exit

main endp

end main

**Q4:**

INCLUDE Irvine32.inc

.DATA

length byte 4

width byte 3

.CODE

main proc

mov eax,0

mov ebx,0

mov al,length

mov bl,width

mul bl

call DumpRegs

exit

main endp

end main

**Q5:**

INCLUDE Irvine32.inc

.DATA

base word 6

height word 2

area word ?

.CODE

main proc

mov eax,0

mov ebx,0

mov ecx,0

mov cx,2

mov ax,base

mov bx,height

mul height

mov height,ax

div cx

mov area,ax

call DumpRegs

exit

main endp

end main

**Q6:**

;carry flag=0,sign flag=1

;overflow flag=1 ,sign flag=1

INCLUDE Irvine32.inc

.data

val1 BYTE 10h

val2 WORD 8000h

val3 DWORD 0FFFFh

val4 WORD 7FFFh

.code

main PROC

inc val2

sub eax,val3

mov bx,val2

sub bx,val4

add val2,1

add val4,1

call dumpregs

exit

main endp

end main