**COAL LAB 9**

Q.1)

Include irvine32.inc

.data

num dword 1

.code

main proc

mov eax,num

mov ebx,num

shl ebx,4 ; mult by 2^4

shl eax,2 ; mult by 2^2

add eax,ebx

mov ebx,num

shl ebx,0

add eax,ebx ; add the products

call writedec

exit

main endp

end main

C:\Users\K214827\Desktop\1.PNG

Q.2)

Include irvine32.inc

.data

msg byte "EAX: ",0

.code

main proc

mov edx,offset msg

mov eax,0

mov ax,-128

call writestring

call writeint

call crlf

shl eax,16

sar eax,16

call writestring

call writeint

call crlf

exit

main endp

end main

C:\Users\K214827\Desktop\2.PNG

Q.3)

Include irvine32.inc

.data

time word 0101010101010101b

Minutes byte " minutes",0

bMinutes byte ?

.code

main proc

mov ax,time

shl eax,21

shr eax,26

mov bMinutes,al

call writebin

call crlf

call writedec

mov edx,offset Minutes

call writestring

call crlf

exit

main endp

end main



Q.4)

Include irvine32.inc

.data

.code

main proc

mov eax,0

mov ax,0000000000000101b

and ax,0000000000000001b

mov bx,ax

shl bx,15

mov ax,bx

call writebin

call crlf

mov eax,0

mov ebx,0

mov ax,0000000000000101b

shrd bx,ax,1

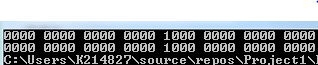
mov eax,ebx

call writebin

exit

main endp

end main



Q.5)

INCLUDE irvine32.inc

.data

var1 sdword 40

var2 sdword 20

var3 sdword 4

.code

main PROC

mov eax,var2

cbw

mov ebx,var3

idiv bl

mov edx,eax

mov eax,var1

cbw

mov ebx,var2

idiv bl

imul edx

call writeint

call crlf

exit

main endp

end main



Q.6)

INCLUDE irvine32.inc

.data

var1 qword 000000000F0000000h

var2 qword 000000000F0000000h

msg1 byte "EAX ptr = ",0

msg2 byte "EDX ptr= ",0

msg3 byte "(After addition)",0

.code

main PROC

call Extended\_Add

call crlf

exit

main endp

Extended\_Add proc

mov ebx,0

mov ecx,0

mov eax,dword ptr var1

mov edx,offset msg1

call writestring

push eax

mov eax,ebx

call writebin

pop eax

call writebin

call crlf

mov edx,offset msg2

call writestring

mov edx,dword ptr var2

mov eax,dword ptr edx

push eax

mov eax,ebx

call writebin

pop eax

call writebin

mov eax,dword ptr var1

call crlf

mov edx,offset msg3

call writestring

call crlf

mov edx,dword ptr var2

add eax,edx

push eax

mov edx,0

adc edx,0

mov eax,edx

call writebin

pop eax

call writebin

ret

Extended\_Add endp

end main

