Lab task

Q1:

Infinite loops

include irvine32.inc

.data

a dword 16

b dword 32

c1 dword 64

d dword 64

e dword 0

eg dword 0

ls dword 0

gr dword 0

count dword 0

msg byte "count is equal = ",0

.code

main proc

mov eax,a

add eax,b

mov e,eax

start:

mov eax,e

cmp eax,d

jne l2

mov eax,e

cmp eax,0

ja l1

l1:

mov eg,1;

jmp end1

l2:

mov eax,e

cmp eax,d

jbe l3

cmp eax,0

je l3

mov eg,0

jmp end1

l3:

mov eax,e

cmp eax,d

jbe l4

mov gr,1

cmp eax,10

jbe l4

mov gr,1

jmp end1

l4:

mov gr,0

jmp end1

end1:

mov eax,e

cmp eax,d

jae l5

mov ls,1

jmp while1

l5:

mov ls,0

jmp while1

while1:

mov eax,e

cmp eax,d

je last

inc count

call dumpregs

jmp while1

last:

mov dl,msg

call writestring

mov eax,count

call writedec

exit

main endp

end main

Q3:

Cgpa procedure

include irvine32.inc

.data

a byte "A+",0

b byte "A",0

c1 byte "A-",0

d byte "B+",0

e byte "B",0

f byte "B-",0

g byte "C",0

i byte "D",0

h byte "F",0

m byte ?

msg byte "enter marks of sub ",0

.code

CGPA proc

mov edx,offset msg

call writestring

mov al,m

call readint

mov m,al

cmp al,90

jae l

jmp ll1

l:

cmp al,100

jbe l1

jmp ll1

l1:

mov edx,offset a

call writestring

jmp y

ll1:

cmp al,86

jae l1l

jmp l2

l1l:

cmp al,90

jbe l11

jmp l2

l11:

mov edx,offset b

call writestring

jmp y

l2:

cmp al,82

jae l21

jmp l22

l21:

cmp al,86

jbe l111

jmp l22

l111:

mov edx,offset c1

call writestring

jmp y

l22:

cmp al,80

jae l23

jmp l25

l23:

cmp al,86

jbe l24

jmp l25

l24:

mov edx,offset d

call writestring

jmp y

l25:

cmp al,75

jae l26

jmp l28

l26:

cmp al,80

jbe l27

jmp l28

l27:

mov edx,offset e

call writestring

jmp y

l28:

cmp al,60

jae l29

jmp l31

l29:

cmp al,75

jbe l30

jmp l31

l30:

mov edx,offset f

call writestring

jmp y

l31:

cmp al,55

jae l32

jmp l34

l32:

cmp al,60

jbe l33

jmp l34

l33:

mov edx,offset g

call writestring

jmp y

l34:

cmp al,50

jae l35

jmp l37

l35:

cmp al,55

jbe l36

jmp l37

l36:

mov edx,offset i

call writestring

jmp y

l37:

cmp al,0

jae l38

jmp y

l38:

cmp al,50

jbe l39

jmp y

l39:

mov edx,offset h

call writestring

jmp y

y:

call crlf

exit

CGPA endp

main proc

call CGPA

exit

main endp

end main

Q4

Converting upper case

Include irvine32.inc

.data

array BYTE "fastnuceshaschangedpolicyformidtermexams2018",0

.code

main PROC

mov ecx,LENGTHOF array

mov esi,OFFSET array

dec ecx

Ll:

and BYTE PTR [esi], 11011111b

inc esi

loop Ll

mov edx, OFFSET array

Call WriteString

Call Crlf

exit

main ENDP

END main

Q5:

Maximum vlue

Include Irvine32.inc

.data

a dword 100

b dword 1132

c1 dword 1321

d dword 143

e dword 105

.code

max proc

mov eax,a

cmp eax,b

ja L1

mov eax,b

L1:

cmp eax,c1

ja L2

mov eax,c1

L2:

cmp eax,d

ja L3

mov eax,d

L3:

cmp eax,e

ja next

mov eax,e

Next:

call writeint

ret

max endp

main proc

xor eax,eax

call max

exit

main endp

end main