MICROPROCESSOR ASSIGNMENTS

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PROBLEM STATEMENT :

Write X86/64 ALP to count number of positive and negative numbers from the array.

CODE :

%macro scall 4

mov rax,%1

mov rdi,%2

mov rsi,%3

mov rdx,%4

syscall

%endmacro

section .data

arr dw 05h,-15h,-21h,13h,-06h

pos db 10,"count of positive numbers is : "

pos\_l equ $-pos

negt db 10,"count of negative numbers is : "

negt\_l equ $-negt

endl db " ",10

endl\_l equ $-endl

section .bss

pcnt resb 1

ncnt resb 1

ans resb 2

section .txt

global \_start

\_start:

mov rcx,5

mov rbx,arr

bck : mov rax,[rbx]

BT rax,63

jnc nxt

inc byte[ncnt]

jmp loop

nxt : inc byte[pcnt]

loop : inc rbx

dec rcx

jnz bck

scall 1,1,pos,pos\_l

mov rdx,[pcnt]

call display

scall 1,1,negt,negt\_l

mov rdx,[ncnt]

call display

mov rax,60

mov rdi,0

syscall

display: ;for one digit number

mov rsi,ans

cmp dl,09h

jle nxt1

add dl,07h

nxt1 :add dl,30h

mov [rsi],dl

scall 1,1,ans,1

scall 1,1,endl,endl\_l

ret

OUTPUT :

