**Find negative and positive numbers.**

section .data

array dq -10h,11h,-12h,-13h,-14h,15h,16h

n equ 7

msg1 db 10,"Positive number count:",10 ;data section to declare and initialize required variables.

msg1\_len equ $-msg1

msg2 db 10,"Negative number count:",10

msg2\_len equ $-msg2

%macro print 2

mov rax,1 ;print macro to print messages.

mov rdi,1

mov rsi,%1

mov rdx,%2

syscall ;system call for print.

%endmacro

section .bss

pcount resq 1 ;.bss section to initialize runtime variables

ncount resq 1

char\_ans resb 16

section .text ;.text section to write business logic

global \_start

\_start:

mov rsi,array ;point rsi to beginning of the array

mov rcx,n ;initialize count with n

mov rbx,0 ;initialize bx and dx

mov rdx,0

next\_num:

mov rax,[rsi]

shl rax,1 ;shift rax left to 1

jc negative ;jump to negatice if carry generated

positive:

inc rbx

jmp next ;count positive numbers

negative:

inc rdx ;count negative numbers

next:

add rsi,8

dec rcx

jnz next\_num

mov [pcount],rbx ;initialize pount and ncount variables

mov [ncount],rdx

print msg1,msg1\_len

mov rax,[pcount] ;print positive numbers

call disp

print msg2,msg2\_len

mov rax,[ncount] ;print negative numbers

call disp

mov rax,60

mov rdx,00 ;program termination

syscall

disp:

mov rbx,16 ;display number in hex

mov rcx,2

mov rsi,char\_ans+1

cnt:

mov rdx,0

div rbx

cmp dl,09h ;compare dl with 09

jbe add30 ;goto add30 if it is below or equal

add dl,07h

add30:

add dl,30h

mov [rsi],dl

dec rsi

dec rcx

jnz cnt

print char\_ans,2

ret