

## Program No.5

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

```
section .data
msg1 db "Count of Positive numbers:",13,10
len1 equ $-msg1
msg2 db 13,10,"Count of negative numbers:",10
len2 equ $-msg2
array db 10,12,-21,-12,-19,-34,41
```

```
%macro print 2
mov rax,01
mov rdi,01
mov rsi,%1
mov rdx,%2
syscall
%endmacro
```

```
section .bss
count resb 2
pcount resb 2
ncount resb 2
totalcount resb 2
```

```
section .text
global _start
_start:
```

```
mov byte[count],07
mov byte[pcount],00
mov byte[ncount],00
```

```
mov rsi,array
```

Up:

```
mov al,00
add al,[rsi]
js neg
inc byte[pcount]
jmp Down
neg:
inc byte[ncount]
```

Down:

```
    add rsi,01
    dec byte[count]
    jnz Up
```

```
mov bl,[pcount]
mov dl,[ncount]
b1:
```

```
print msg1,len1
mov bh,[pcount]
call disp
```

```
print msg2,len2
mov bh,[ncount]
call disp
```

```
mov rax,60
mov rdi,00
syscall
```

```
disp:
mov byte[count],02
```

```
loop:
    rol bh,04
    mov al,bh
    AND al,0FH
    cmp al,09
    jbe l1
    add al,07h
l1:add al,30h
    mov[totalcount],al
    print totalcount,02
    dec byte[count]
    jnz loop

ret
```

## Output:

```
student@student-Vostro-3902: ~/Downloads/Ratnapal
student@student-Vostro-3902:~/Downloads/Ratnapal$ nasm -f elf64 mp5.asm
student@student-Vostro-3902:~/Downloads/Ratnapal$ ld -s -o mp5 mp5.o
student@student-Vostro-3902:~/Downloads/Ratnapal$ ./mp5
Count of Positive numbers:
03
Count of negative numbers:
04student@student-Vostro-3902:~/Downloads/Ratnapal$
```