

Assignment – 5 (Count no. of positive and negative numbers)

Code

```
; Problem Statement: Write X86/64 ALP to count number of positive and negative numbers from
the array.
; BEGINNING OF CODE
%macro print 2
mov rax,1
mov rdi,1
mov rsi,%1
mov rdx,%2
syscall
%endmacro
section .data
m1 db 10,"ALP to count positive and negative numbers from an array",10
l1 equ $-m1
m2 db 10,"The count of positive numbers is:",10
l2 equ $-m2
m3 db 10,"The count of negative numbers is:",10
l3 equ $-m3
;array dw 8132h,6879h,711Ah,3567h,4567h
;array dd 81328132h,12346879h,6735711Ah,34563567h,67894567h
array dq 81328132ABCDh,12346879AAAAh,6735711AFFFFh,34563567EEEEh,67894567DEFAh
newline db 10
pcnt db 00
ncnt db 00
section .bss
displaybuffer resb 2
section .text
global _start:
_start:
print m1,l1
mov rsi,array
mov rcx,05
up:
bt qword [rsi],63
jnc pnxt
```

```
inc byte[ncnt]
jmp pskip
pnxt: inc byte[pcnt]
pskip: add rsi,8
loop up
print m2,l2
mov bl,[pcnt]
call display
print newline,1
print m3,l3
mov bl,[ncnt]
call display
print newline,1
mov rax,60
syscall
display:
mov rdi,displaybuffer
mov rcx,02
dloop:
    rol bl,04
    mov dl,bl
    and dl,0fh
    add dl,30h
    cmp dl,39h
    jbe skip
    add dl,07h
skip:
    mov [rdi],dl
    inc rdi
    loop dloop
print displaybuffer,2
ret
; END OF CODE
```

Output

```
$ nasm -f elf64 Practical-1.asm && ld -o exec Practical-1.o && ./exec
```

ALP to count positive and negative numbers from an array

The count of positive numbers is:

05

The count of negative numbers is:

00
