

# ML Assignment

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**Batch:** S4 Comp

## Assignment 6:

### **Code:**

Section .data

```
Msg1 db "Count of Positive numbers:"
Len1 equ $ - msg1
Msg2 db "Count of negative numbers:"
Len2 equ $ - msg2
Array db 10, 12, -21, -12, -19, -34, 41
```

%macro print 2

```
    Mov rax, 1
    Mov rdi, 1
    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:

```

pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ nasm -f elf64 -g -F stabs 6_1.nasm
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ ld -o x 6_1.o
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ ./x
=====
MENU
=====
Enter your choice
1. Hex to BCD
2. BCD to hex
3. Exit
1
Enter the number
1111
4369
=====
MENU
=====
Enter your choice
1. Hex to BCD
2. BCD to hex
3. Exit
2
Enter the number
12
1DF8
=====
MENU
=====
Enter your choice
1. Hex to BCD
2. BCD to hex
3. Exit
3
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$

```

