SUBJECT: MICROPROCESSOR LAB (MPL)	
NAME:	
CLASS: SE COMP B	**ROLL NO.:**
SEMESTER: SEM-II	**YEAR: 2023-24**
DATE OF PERFORMANCE:	**DATE OF SUBMISSION:**
EXAMINED:	

Assignment No-05

Title:- Count no. of positive and negative numbers

Assignment Name: - Write an ALP to count no. of positive and negative numbers from the array.

Objective:-

- To understand the assembly language program
- To understand 64 bit interrupt.

Outcome:-

- Students will be able to write code for how to count positive and negative number from array
- Students will be able to understand different assembly language instruction.

Prerequisite:-

System call of Unix for Assembly language Program.

Hardware Requirement-

Desktop PC

Software Requirement-

Ubuntu 14.04,

Assembler: NASM
version 2.10.07
Linker: ld

Introduction:-

Write System Call

```
mov rax,1
mov rdi,1
mov rsi,%1
mov rdx,%2
syscall
```

Read System Call

```
mov rax,0
mov rdi,0
mov rsi,%1
mov rdx,%2
syscall
```

Compiling and Linking an Assembly Program in NASM

1. Type the above code using a text editor and save it as assignment1.asm.
2. Make sure that you are in the same directory as where you saved assignment1**.asm**.
3. To assemble the program, type **nasm -f elf64 assignment1.asm**
4. If there is any error, you will be prompted about that at this stage. Otherwise an object file of your program named **assignment1.o** will be created.
5. To link the object file and create an executable file named assignment1, type **ld -o assignment assignment1.o**
6. Execute the program by typing **./assignment1**

Algorithm:

1. Start
2. Initialize section .data
3. Define variable for array, pcount, ncount
4. Count Positive and negative number using BT command.
5. Display counts
6. Terminate program using system call
6. Stop

Conclusion:- Hence we implemented an ALP to count positive and negative number from array and display count.

Questions:-

1. Explain BT,JS,loop instruction with Example?
2. Explain Paging in 80386?
3. Draw control registers of 80386