;-------------------------------------------------------------------------------

;Write X86 ALP to find, a) Number of Blank spaces b) Number of lines c) Occurrence ;of a particular character. Accept the data from the text file. The text file has to ;be accessed during Program\_1 execution and write FAR PROCEDURES in Program\_2 ;for the rest of the processing. Use of PUBLIC and EXTERN directives is mandatory

;-------------------------------------------------------------------------------

%macro input 2

mov rax,0

mov rdi,0

mov rsi,%1

mov rdx,%2

syscall

%endm

%macro output 2

mov rax,1

mov rdi,1

mov rsi,%1

mov rdx,%2

syscall

%endm

%macro ext 0

mov rax,60

mov rdi,0

syscall

%endm

%macro open 0

mov rax,2

mov rdi,filename

mov rsi,2

mov rdx,666

syscall

%endm

%macro read 0

mov rax,0

mov rdi,[fd]

mov rsi,str1

mov rdx,length

syscall

%endm

global str1,b\_cnt,l\_cnt,o\_cnt,o

global \_start

section .bss

str1 resb 50

length resb 4

b\_cnt resb 1

l\_cnt resb 1

o\_cnt resb 1

o resb 1

extern blank,line,occ

section .data

filename db 'rohit.txt'

fd dq 0

msg db 0ah,'Total no. of blank spaces : '

len equ $-msg

msg1 db 0ah,'Total no of lines : '

len1 equ $-msg1

msg2 db 0ah,'Occurence of letter : '

len2 equ $-msg2

section .text

\_start:

open

mov byte[length],50

mov [fd],rax

read

call blank

call line

call occ

output msg,len

output b\_cnt,1

output msg1,len1

output l\_cnt,1

output msg2,len2

output o\_cnt,1

ext

extern b\_cnt,l\_cnt,o\_cnt,str1,o

global blank,line,occ

blank:

mov rsi,str1

mov byte[b\_cnt],0

up: mov al,[rsi]

cmp al,20h

jne dn

inc byte[b\_cnt]

dn:inc rsi

dn2: cmp al,00h

je dn1

jmp up

dn1:

add byte[b\_cnt],30h

ret

line:

mov rsi,str1

mov byte[l\_cnt],0

up1: mov al,[rsi]

cmp al,0ah

jne dn3

inc byte[l\_cnt]

dn3:inc rsi

dn4: cmp al,00h

je dn5

jmp up1

dn5:

add byte[l\_cnt],30h

ret

occ:

mov rax,0

mov rdi,0

mov rsi,o

mov rdx,1

syscall

mov rsi,str1

mov byte[o\_cnt],0

up2: mov al,[rsi]

cmp al,[o]

jne dn6

inc byte[o\_cnt]

dn6:inc rsi

dn7: cmp al,00h

je dn8

jmp up2

dn8:

add byte[o\_cnt],30h

ret

**OUTPUT :**

manu@ubuntu:~/Documents/MP$ nasm -f elf64 -g -F stabs ass5.nasm

manu@ubuntu:~/Documents/MP$ nasm -f elf64 -g -F stabs ass5b.nasm

manu@ubuntu:~/Documents/MP$ ld -o ass5 ass5.o ass5b.o

manu@ubuntu:~/Documents/MP$ ./ass5

Enter the letter :a

Total no. of blank spaces : 0

Total no of lines : 5

Occurence of letter : 6