Name: Vinayak Madan Shete

Roll No.: SYCOC303 Course Name: Microprocessor Architecture Lab

Div: C   Batch: C4   Course Code: BCE4302

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Problem Statement:

Write X86/64 ALP to accept a string and to display its length.

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Input:

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;Assignment No.:02
;Write an ALP to calculate the length of the entered string
;===============================================
section .data
  msg db 10,"Enter any string:"
  msg_len equ $-msg
  smsg db 10,"The length of the string is:"
  smsg_len equ $-smsg
;===============================================
;===============================================
section .bss
  string resb 50
  string_len equ $-string
  count resb 1
  char_ans resb 2
;===============================================
;===============================================
%macro print 2
  mov rax,1
  mov rdi,1
  mov rsi,%1
  mov rdx,%2
  syscall
```

```
%endmacro
%macro read 2
  mov rax,0
  mov rdi,0
  mov rsi,%1
  mov rdx,%2
  syscall
%endmacro
%macro exit 0
  mov rax,60
  mov rdi,1
  syscall
%endmacro
;================================================
;================================================
section .text
  global _start
_start:
  print msg,msg_len
  read string,string_len
  mov [count],rax
  print smsg,smsg_len
  mov rax,[count]
  call display
  exit
;================================================
;================================================
display:
  mov rbx,10
  mov rcx,2
  mov rsi,char_ans+1
  cnt:
  mov rdx,0
```

```
div rbx

cmp dl,09h

jbe add30

add dl,07h

add30:

add dl,30h

mov [rsi],dl

dec rsi

dec rcx

jnz cnt

print char_ans,2

ret
```

;==

Output:

```
administrator@206-4:~/Desktop/MAL programs$ nasm -f elf64 Assignment2.asm
administrator@206-4:~/Desktop/MAL programs$ ld Assignment2.0 -o Assignment2
administrator@206-4:~/Desktop/MAL programs$ ./Assignment2
Enter any string:Pimpri Chinchwad College of Engineering Pune
The length of the string is:45
administrator@206-4:~/Desktop/MAL programs$
```

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