

## SC165

**Assignment No- 3** Write an X86/64 ALP to accept a string and to display its length.

```
%macro write 2
```

```
    mov rax,1
```

```
    mov rdi,1
```

```
    mov rsi,%1
```

```
    mov rdx,%2
```

```
    syscall
```

```
%endmacro
```

```
section .data
```

```
msg1 db "Enter the string: ",10
```

```
len1 equ $-msg1
```

```
msg2 db "Length of string: ",10
```

```
len2 equ $-msg2
```

```
section .bss
```

```
name resb 50
```

```
result resb 16
```

```
section .text
```

```
global _start
```

```
_start:
```

```
    write msg1,len1
```

```
    mov rax,0
```

```
    mov rdx,0
```

```
    mov rsi,name
```

```
    mov rdx,50
```

```
    syscall
```

```
    dec rax
```

```
    call display
```

```
    mov rax,60
```

```
    mov rdi,0
```

```
    syscall
```

```
display:
```

```
    mov rbx,rax
```

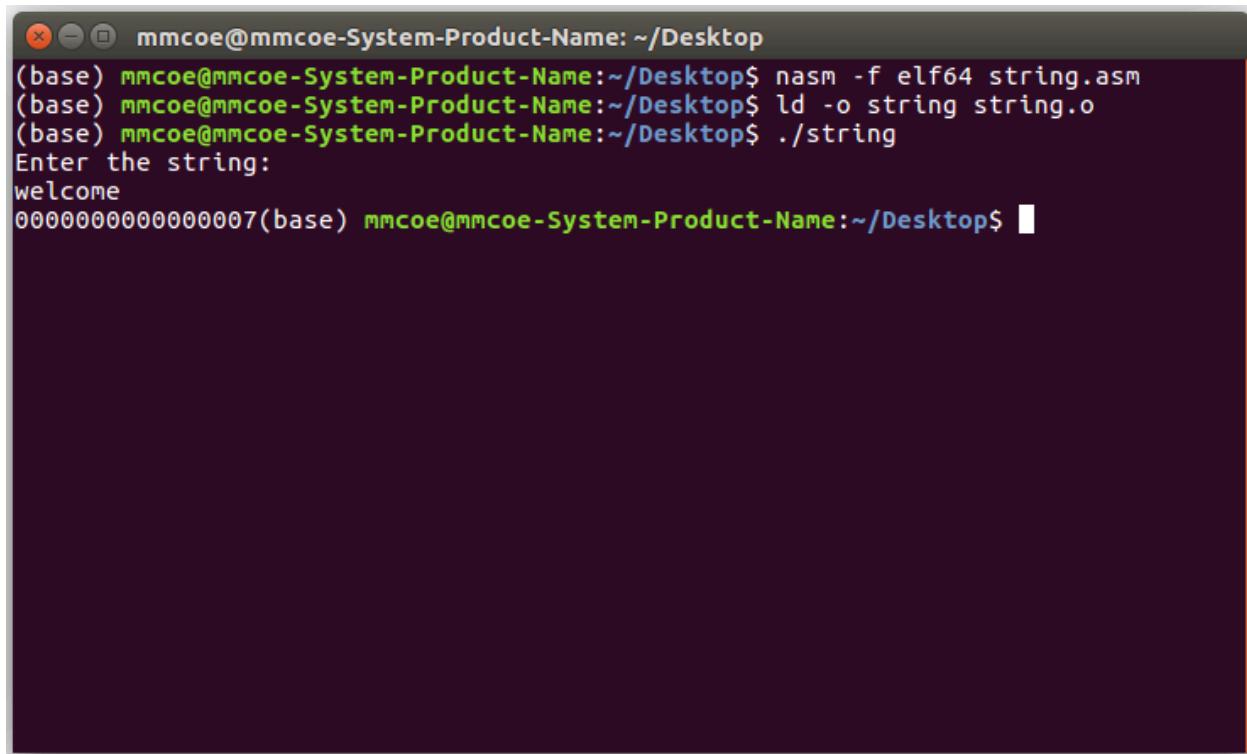
```
    mov cx,16
```

```
    mov edi,result
```

```
up:  
rol rbx,4  
mov al,bl  
and al,0fH  
cmp al,09H  
jg add_37  
add al,30H  
jmp skip
```

```
add_37:  
add al,37H
```

```
skip:  
mov[edi],al  
inc edi  
dec cx  
jnz up  
write result,16  
ret
```



The screenshot shows a terminal window with the following session:

```
mmcoe@mmcoe-System-Product-Name: ~/Desktop  
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ nasm -f elf64 string.asm  
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ ld -o string string.o  
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ ./string  
Enter the string:  
welcome  
0000000000000007(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$
```