

## 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
```

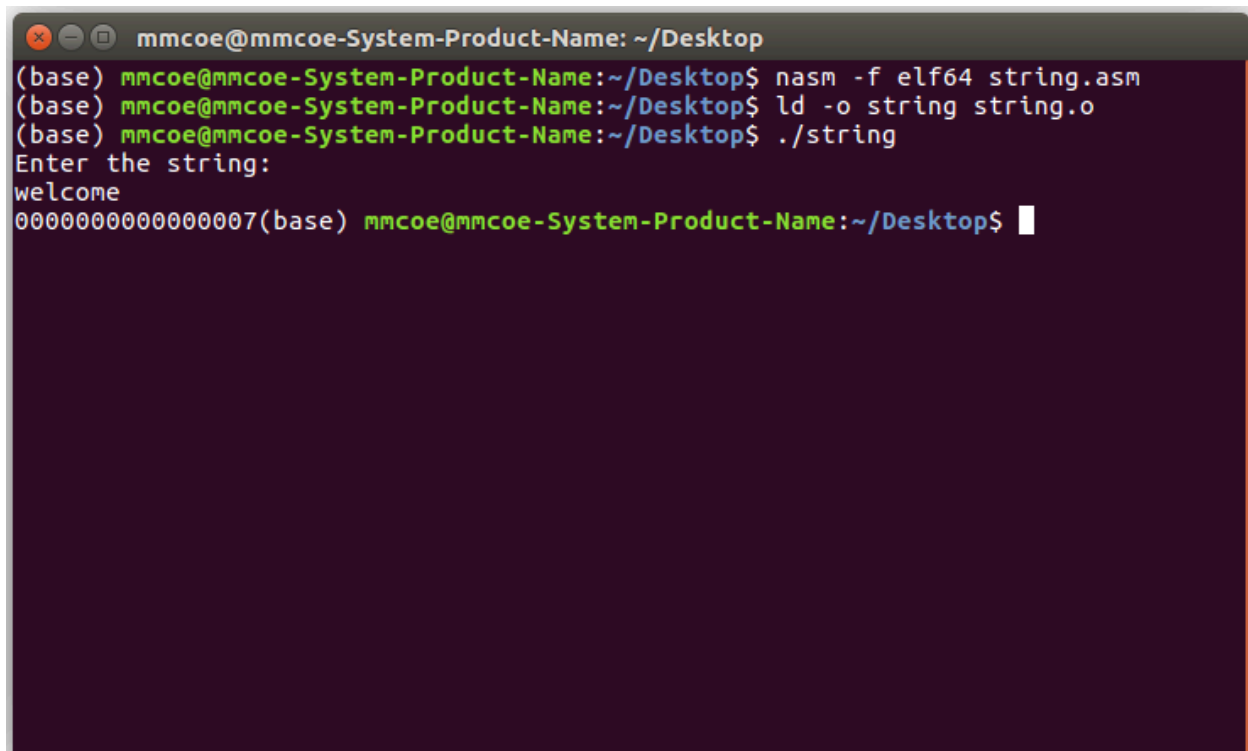
```
mov rax,60
mov rdi,0
syscall
```

```
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
```

A terminal window with a dark purple background and a grey title bar. The title bar contains window control icons and the text 'mmcoe@mmcoe-System-Product-Name: ~/Desktop'. The terminal shows the following commands and output:

```
(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$
```