ASSIGNMENT NO 2

PROBLEM STATEMENT:

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

SOURCE CODE:

```
section .data
   msg1 db 10,13,"Enter a string:"
   len1 equ $-msg1

section .bss
   str1 resb 200              ;string declaration
   result resb 16

section .text

global _start
   _start:

;display
   mov Rax,1
   mov Rdi,1
   mov Rsi,msg1
   mov Rdx,len1
   syscall

;store string

   mov rax,0
   mov rdi,0
   mov rsi,str1
   mov rdx,200
   syscall

call display
```

```
;exit system call
    mov Rax ,60
    mov Rdi,0
    syscall


%macro dispmsg 2
    mov Rax,1
    mov Rdi,1
    mov rsi,%1
    mov rdx,%2
    syscall
%endmacro



display:
    mov rbx,rax                 ; store no in rbx
    mov rdi,result              ;point rdi to result variable
    mov cx,16                   ;load count of rotation in cl

    up1:
    rol rbx,04                  ;rotate no of left by four bits
    mov al,bl                 ; move lower byte in dl
    and al,0fh                  ;get only LSB
    cmp al,09h                   ;compare with 39h
    jg add_37                    ;if greater than 39h skip add 37
    add al,30h
    jmp skip                    ;else add 30
add_37:
    add al,37h
skip:
    mov [rdi],al                ;store ascii code in result variable
    inc rdi                   ; point to next byte
    dec cx                     ; decrement counter
    jnz up1                     ; if not zero jump to repeat
        dispmsg result,16       ;call to macro
ret
```