```
.model small
.stack 100h
disp macro msg
    mov ah,09h
    lea dx,msg
    int 21h
endm
.data
    str1 db 25, ?, 25 dup ('$')
    str2 db 25, ?, 25 dup (?)
    msg13 db 10,13, '*************
    msg14 db 10,13, '**Samiksha Pandit**$'
    msg15 db 10,13, 'SYITB088$'
    msg16 db 10,13, '*******************
    msg0 db 10,13, '**Menu**$'
    msg1 db 10,13, '1.Accept$'
    msg2 db 10,13, '2.Length$'
    msg3 db 10,13, '3.Reverse$'
    msg4 db 10,13, '4.Palindrome$'
    msg5 db 10,13, '5.Exit$'
    msg6 db 10,13, 'Enter your choice: $'
    msg7 db 10,13, 'Invalid choice!$'
    msg8 db 10,13, 'Enter string'
    msg9 db 10,13, 'String is:$'
    msg10 db 10,13, 'Length is:$'
    msg11 db 10,13, 'The string is a Palindrome$'
    msg12 db 10,13, 'The string is not a Palindrome$'
.code
begin: mov ax,@data
    mov ds,ax
menu: disp msg13
    disp msg14
    disp msg15
    disp msg16
    disp msg0
                   ;menu
    disp msg1
                   ;1.accept
    disp msg2
                   ;2.length
    disp msg3
                   ;3.reverse
    disp msg4
                   ;4.palindrome
    disp msg5
                   :5.exit
```

```
disp msg6
                   ;enter your choice
    mov ah,01h
    int 21h
switch: mov bl,al
     cmp bl,31h
    je case1
    cmp bl,32h
    je case2
    cmp bl,33h
    ie case3
    cmp bl,34h
    je case4
    cmp bl,35h
    je case5
    disp msg7
    jmp menu
case1: call acc
    jmp menu
case2: call len
    jmp menu
case3: call rev
    imp menu
case4: call palin
    jmp menu
case5: mov ah,4ch
    int 21h
acc proc near
    disp msg8
                   ;enter string
    mov ah,0ah
                    ;accepts a string in string whose EA is loaded in dx
                  ;loads effective address of str1 in dx
    lea dx,str1
    int 21h
ret
acc endp
len proc near
    disp msg10
                   ;length is
    mov cl,str1+1 ;increase counter 1 by 1 till end of string
    add cl,30h
                  ;conversion to ASCII
    mov ah,02h
                    ;display length
                 ;as 02h interrupt displays from dl register
     mov dl,cl
```

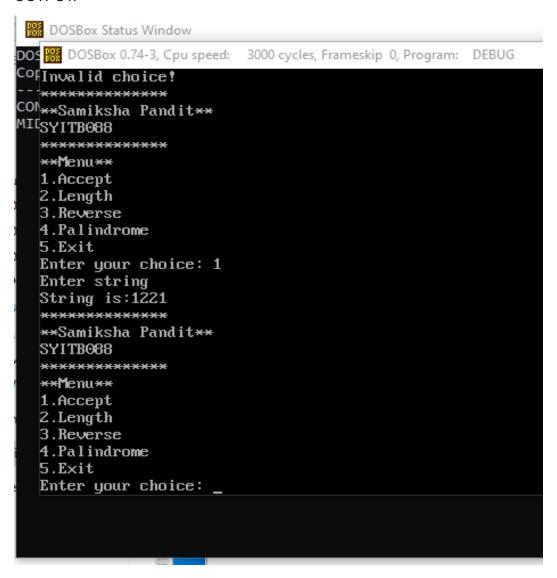
```
int 21h
ret
len endp
rev proc near
     disp msg9 ;string is
     mov ch,00 ;initialise counter to zero
     mov cl,str1+1 ;set cl so that si can be set
     sub cl,01h ;sub 1 from cl to set pointer at last character
     lea si,str1+2 ;set si pointer for str1 by loading EA of str1 in si
     lea di,str1+2 ;inform di about position of si
     rep movsb
                    ;move string byte by byte
     mov cl,str1+1 ;set cl equal to str1 length for count
     lea di,str2+2 ;set counter for destination string
loop1: mov dx,[si]
     mov [di],dx
     mov ah,02h
                    ;display character in dx register
     int 21h
     dec si
     inc di
     dec cl
     cmp cl,00h
                   ;loop till counter cl!=0
     ine loop1
ret
rev endp
palin proc near
     disp msg9
                   ;string is
     ;lea dx,str1+2
     call rev
     lea di,str2+2
     lea si,str1+2
     mov cl,str1+1
loop2: ;mov al,byte ptr[si]
     ;mov bl,byte ptr[di]
     mov al,[si]
     mov bl,[di]
     dec cl
     cmp cl,00h
                   ;keep track of count
     je loop4
     cmp al,bl
                  ;compare if string characters are equal
```

```
je loop3
disp msg12 ;string is not palindrome
jmp loop5

loop4: disp msg11 ;string is palindrome
loop5: ret
loop3: inc si
    inc di
    jmp loop2
ret
palin endp

end begin
```

OUTPUT:



```
BOSBox Status Window
DOS Box 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
<sup>Cof</sup>Enter your choice: 2
---Length is:4
CON
<sup>MIC</sup>**Samiksha Pandit**
  SYITB088
   *************
   **Menu**
   1.Accept
  2.Length
  3.Reverse
  4.Palindrome
  5.Exit
  Enter your choice: 3
  String is:1221
   ******
   **Samiksha Pandit**
  SYITB088
   *****
   **Menu**
   1.Accept
  2.Length
  3.Reverse
  4.Palindrome
  5.Exit
  Enter your choice: _
```