

## **Code: String Niyati Savant**

### Data Segment

```
title db 0dh,0ah,"NIYATI EXP 5 $"
chc db 0dh,0ah,"Choose Operation: $"
chc1 db 0dh,0ah," 1. Accept String $"
chc2 db 0dh,0ah," 2. Display String $"
chc3 db 0dh,0ah," 3. Display Length $"
chc4 db 0dh,0ah," 4. Display Reverse $"
chc5 db 0dh,0ah," 5. Check Palindrome $"
chc6 db 0dh,0ah," 6. Exit $"
len db ?
msg db 0dh,0ah,"Please enter the String: $"
msg1 db 0dh,0ah,"The length of the entered String is: $"
msg2 db 0dh,0ah,"The entered String is: $"
msg3 db 0dh,0ah,"The reverse of the entered String is: $"
pal db 0dh,0ah,"The String is a Palindrome. $"
npal db 0dh,0ah,"The String is not a Palindrome. $"
newl db 0dh,0ah," $"
```

Data ends

### Code Segment

```
assume DS:Data,CS:Code
```

Start:

```
mov ax,Data
mov DS,ax
mov dx,offset title
mov ah,09h
int 21h
call AcceptString
l: mov dx,offset chc
mov ah,09h
int 21h
```

```
mov dx,offset chc1
mov ah,09h
int 21h
mov dx,offset chc2
mov ah,09h
int 21h
mov dx,offset chc3
mov ah,09h
int 21h
mov dx,offset chc4
mov ah,09h
int 21h
mov dx,offset chc5
mov ah,09h
int 21h
mov dx,offset chc6
mov ah,09h
int 21h
mov dx,offset newl
mov ah,09h
int 21h
mov ah,01h
int 21h
sub al,30h
cmp al,06h
jz ex
cmp al,05h
jne n1
call CheckPal
n1: cmp al,04h
jne n2
```

```
call DisplayRev
n2: cmp al,03h
jne n3
call DisplayLength
n3: cmp al,02h
jne n4
call DisplayString
n4: cmp al,01h
jne l
call AcceptString
jmp l
ex: mov ah,4ch
int 21h
AcceptString proc
mov si,1000h
mov di,1000h
mov cx,0000h
mov dx,offset msg
mov ah,09h
int 21h
back:
mov ah,01h
int 21h
cmp al,0dh
je comp
inc cx
mov [si],al
mov [di],al
inc si
inc di
jmp back
```

```
comp: mov len,cl
      ret
endp

DisplayString proc
      mov dx,offset msg2
      mov ah,09h
      int 21h
      mov cl,len
      mov ch,00h
      mov si,1000h
disp:
      mov dl,[si]
      mov ah,02h
      int 21h
      inc si
      loop disp
      ret
endp

DisplayLength proc
      mov dx,offset msg1
      mov ah,09h
      int 21h
      mov bl,len
      call DispNum
      ret
endp

DispNum proc
      mov al,bl
      and al,0f0h
      ror al,4
      mov dl,al
```

```
call HexDisp
mov ah,02h
int 21h
mov al,bl
and al,0fh
mov dl,al
call HexDisp
mov ah,02h
int 21h
endp
HexDisp proc
cmp dl,0ah
jc nothex
add dl,07h
nothex: add dl,30h
ret
endp
DisplayRev proc
mov dx,offset msg3
mov ah,09h
int 21h
mov cl,len
mov ch,00h
mov si,1000h
add si,cx
dec si
dispr:
mov dl,[si]
mov ah,02h
int 21h
dec si
```

```
loop dispr
ret
endp
CheckPal proc
    mov al,len
    mov ah,00h
    mov bl,02h
    div bl
    mov cl,len
    dec cl
    mov ch,00h
    mov di,1000h
    mov si,1000h
    add di,cx
    mov cl,al
    mov ch,00h
pchk:
    mov al,[si]
    cmp al,[di]
    jnz np
    inc si
    dec di
    loop pchk
    mov dx,offset pal
    mov ah,09h
    int 21h
    ret
np:
    mov dx,offset npal
    mov ah,09h
    int 21h
```

ret

endp

Code ends

end Start

OUTPUT:

```
Assembling file:  string.asm
Error messages:  None
Warning messages: None
Passes:         1
Remaining memory: 472k
```

```
C:\TASM>tlink string.obj
Turbo Link  Version 2.0  Copyright (c) 1987, 1988 Borland International
Warning: no stack
```

```
C:\TASM>string.exe
```

```
NIYATI EXP 5
Please enter the String: Microprocessor
```

```
Choose Operation:
1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit
```

-

```
1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit
```

2

```
The entered String is: Microprocessor
```

```
Choose Operation:
1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit
```

```
Choose Operation:
1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit
```

1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

3

The length of the entered String is: 0E

Choose Operation:

1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

4

The reverse of the entered String is: rossecorporciM

Choose Operation:

1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

-

2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

5

The String is not a Palindrome.

Choose Operation:

1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

Choose Operation:

1. Accept String
2. Display String
3. Display Length
4. Display Reverse
5. Check Palindrome
6. Exit

6

C:\TASM>\_