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Palindrome.

```
.MODEL SMALL
DISPLAY MACRO MSG
    LEA DX, MSG
    MOV AH, 09H
    INT 21H
ENDM

.DATA
MSG1 DB 0DH, 0AH
MSG2 DB 0DH, 0AH
MSG3 DB 0DH, 0AH
MSG4 DB 0DH, 0AH
STRING DB 80H DUP
RSTRING DB 80H DUP

.CODE
START: MOV AX, @DATA
        MOV DS, AX
        DISPLAY MSG1
        MOV SI, OFFSET STRING
        XOR CL, CL

AGAIN:  MOV AH, 03H
        INT 21H
        CMP AL, 0DH
        JE NEXT
        MOV [SI], AL
        INC SI
        INC CL
        JMP AGAIN

NEXT:   MOV [SI], BYTE PTR
        DEC SI
        MOV CH, CL
        MOV DI, OFFSET RSTRING
        MOV AL, [SI]
        MOV [DI], AL
```

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IBM19CS135

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DEC SI

INC DI

DEC CH

ENZ BACK

MOV (DP), BYTE PTR

DISPLAY MSG2

DISPLAY RSTRING

MOV SI, OFFSET STRING

MOV DI, OFFSET RSTRING

AG: MOV AL, [SI]

CMP AL, [DI]

JNE FAIL

INC SI

INC DI

DEC CX

JZ SUCCESS

JMP AG

FAIL: ~~MOV~~ DISPLAY MSG4

JMP FINAL

SUCCESS: DISPLAY MSG3

FINAL: MOV AH, YCH

INT 21H

END

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C:\MASM\PAL.ASM

```
.model small
display macro msg
    lea dx,msg
    mov ah,09h
    int 21h
endm

.data
msg1 db 0dh,0ah, "Enter the String: $"
msg2 db 0dh,0ah, "Reverse String: $"
msg3 db 0dh,0ah, "Input String is a Palindrom. $"
msg4 db 0dh,0ah, "Input String is not a Palindrome. $"

string db 80h dup(?)
rstring db 80h dup(?)

.code
start:  mov ax,@data
        mov ds,ax
        display msg1
        mov si,offset string
        xor cl,cl
```

```
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C:\MASM\PAL.ASM

again: mov ah,01h
      int 21h
      cmp al,0dh
      je next
      mov [si],al
      inc si
      inc cl
      jmp again

next:  mov [si],byte ptr '$'
      dec si
      mov ch,cl
      mov di,offset rstring

back:  mov al,[si]
      mov [di],al
      dec si
      inc di
      dec ch
      jnz back
      mov [di],byte ptr '$'
      display msg2

F1=Help | Line:44 Col:1
```



```
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C:\MASM\PAL.ASM

    display msg2
    display rstring
    mov si, offset string
    mov di, offset rstring

ag:   mov al,[si]
      cmp al,[di]
      jne fail
      inc si
      inc di
      dec cx
      jz success
      jmp ag

fail : display msg4
      jmp final

success:display msg3

final: mov ah,4ch
      int 21h

end
```

F1=Help | Line:66 Col:1

```
0 Warning Errors
0 Severe Errors
```

```
C:\MASM>LINK PAL ;;
```

```
Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.
```

```
LINK : warning L4021: no stack segment
```

```
C:\MASM>PAL
```

```
Enter the String: MADAM
```

```
Reverse String: MADAM
```

```
Input String is a Palindrom.
```

```
C:\MASM>PAL
```

```
Enter the String: BMSCE
```

```
Reverse String: ECSMB
```

```
Input String is not a Palindrome.
```

```
C:\MASM>_
```