

CODE:

```
1
2 .MODEL SMALL
3
4 DISPLAY MACRO MSG
5     LEA DX, MSG
6     MOV AH, 09H
7     INT 21H
8 ENDM
9
10 .DATA
11 MSG1 DB 0DH, 0AH, "ENTER STRING :: $"
12 MSG2 DB 0DH, 0AH, "REVERSE STRING :: $"
13 MSG3 DB 0DH, 0AH, "INPUT STRING IS PALINDROME.$"
14 MSG4 DB 0DH, 0AH, "INPUT STRING IS NOT A PALINDROME STRING.$"
15 STRING DB 80H DUP(?)
16 RSTRING DB 80H DUP(?)
17
18 .CODE
19 START : MOV AX, @DATA
20         MOV DS, AX
21         DISPLAY MSG1
22         MOV SI, OFFSET STRING
23         XOR CL, CL
24 AGAIN:  MOV AH, 01H
25         INT 21H
26         CMP AL, 0DH
27         JE NEXT
28         MOV [SI], AL
29         INC SI
30         INC CL
31         JMP AGAIN
32 NEXT :  MOV [SI], BYTE PTR '$'
33         DEC SI
34         MOV CH, CL
35         MOV DI, OFFSET RSTRING
36 BACK:   MOV AL, [SI]
37         MOV [DI], AL
38         DEC SI
```

```
34         MOV CH, CL
35         MOV DI, OFFSET RSTRING
36 BACK:   MOV AL, [SI]
37         MOV [DI], AL
38         DEC SI
39         INC DI
40         DEC CH
41         JNZ BACK
42         MOV [DI], BYTE PTR '$'
43         DISPLAY MSG2
44         DISPLAY RSTRING
45         MOV SI, OFFSET STRING
46         MOV DI, OFFSET RSTRING
47 AG:     MOV AL, [SI]
48         CMP AL, [DI]
49         JNE FAIL
50         INC SI
51         INC DI
52         DEC CX
53         JZ SUCCESS
54         JMP AG
55 FAIL:   DISPLAY MSG4
56         JMP FINAL
57 SUCCESS: DISPLAY MSG3
58 FINAL:  MOV AH, 4CH
59         INT 21H
60 END
61
62
63
64
```

OUTPUT:

```
C:\>masm PAL;;
Microsoft (R) Macro Assembler Version 5.10
Copyright (C) Microsoft Corp 1981, 1988. All rights reserved.
```

```
50044 + 459266 Bytes symbol space free
```

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

```
C:\>link PAL;;
```

```
Microsoft (R) Overlay Linker Version 3.64
Copyright (C) Microsoft Corp 1983-1988. All rights reserved.
```

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

```
C:\>PAL
```

```
ENTER STRING :: malayalam_
```

```
C:\>PAL
```

```
ENTER STRING :: malayalam
```

```
REVERSE STRING :: malayalam
INPUT STRING IS PALINDROME.
```

```
C:\>PAL
```

```
ENTER STRING :: nitin
```

```
REVERSE STRING :: nitin
INPUT STRING IS PALINDROME.
```

```
C:\>mysore
```

```
Illegal command: mysore.
```

```
C:\>PAL
```

```
ENTER STRING :: mysore
```

```
REVERSE STRING :: erosym
INPUT STRING IS NOT A PALINDROME STRING.
```

```
C:\>_
```