LAB-4
PALINDROME

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


.DATA
MSG1   DB, 0DH, 0AH ; "Enter string: $"
MSG2   DB, 0DH, 0AH ; "Reverse String: $"
MSG3   DB, 0DH, 0AH ; "Input string is PALINDROME $"
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
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
        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.
```

```
Cross-reference [NUL.CRF]:

   51574 + 464970 Bytes symbol space free

      0 Warning Errors
      0 Severe  Errors

C:\MASM>link PALINDEO.OBJ;;

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LINK : warning L4021: no stack segment

C:\MASM>PALINDEO

ENTER A STRING: balab

ENTERED STRING IS PALINDROME
C:\MASM>PALINDEO

ENTER A STRING: bala

ENTERED STRING IS NOT A PALINDROME
C:\MASM>
```