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Lab program 4

IBM1965168
Sneha Pate
Sneha

• MODEL SMALL

DISPLAY MACRO MSG

LEA DX, MSG

MOV AH, 09H

INT 21H

ENDM

• DATA

MSG1 DB 0DH, 0AH, "ENTER A STRING :- \$"

MSG2 DB 0DH, 0AH, "ENTERED STRING IS
PALINDROME \$"

MSG3 DB 0DH, 0AH, "ENTERED 'STRING' IS NOT
A PALINDROME \$"

STR DB 10H DUP(0)

REVSTR DB 10H DUP(0)

LEN DW 0

• CODE

MOV AX, @DATA

MOV DS, AX

DISPLAY MSG1

MOV SI, 00H

BACK1: MOV AH, 01H
INT 21H

; to get the input from
keyboard

CMP AL, 0DH

JZ NEXT

; when enter key is
pressed

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MOV STR[SI], AL
INC SI
INC LEN
JMP BACK1

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NEXT: MOV SI, 00H
      MOV DI, 00H
      ADD DI, LEN ; di = 00 + 09 = 09
      DEC DI ; di = 08 (string of length 9
      MOV CX, LEN ; cx = 09 means index from 0 to 8)

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BACK2: MOV AL, STR[SI] ; AL ← STR[00]
      MOV REVSTR[DI], AL ; REVSTR[8] ← AL
      INC SI
      DEC DI
      LOOP BACK2

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MOV CX, LEN ; CX = 9
MOV SI, 00H
MOV DI, 00H
CLD ; it autoincrements the index

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BACK3: MOV BL, STR[SI]
      CMP BL, REVSTR[DI]
      JNZ NOTPALINDROME
      LOOP BACK3
      DISPLAY MSG2
      JMP LAST

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NOTPALINDROME: DISPLAY MSG3
LAST: MOV AH, 4CH
      INT 21H
      END

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