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;NAME:: LUNGADE KIRAN SANJAY
;ROLL NO.:: 39
;BATCH:: S2
;PROGRAM TO REVERSE THE STRING AND CONVERT UPPER CASE LETTER TO
LOWER CASE LETTER

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EXTRN LOWER_UPPER:FAR
PUBLIC P5,STR1BUFF,STR1,STR3

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INCLUDE MACRO.ASM

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DATASEG1      SEGMENT
STR1BUFF DB 20,0
STR1  DB 20 DUP(0),'$'
STR2  DB 20 DUP(0),'$'
STR3  DB 20 DUP(0),'$'

P1    DB 10,13,'ENTER THE STRING           :      '$'
P2    DB 10,13,'REVERSE OF THE STRING IS       :      '$'
P3    DB 10,13,'STRING CONVERTED IS           :      '$'
P4    DB 10,13,'REVERSING THE STRING           :      '$'
P5    DB 10,13,'CONVERTED STRING FROM LOWER TO UPPER IS :
$'

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DATASEG1      ENDS
STACKSEG1     SEGMENT STACK
              DW 100 DUP(0)
              ST_PTR  DW 0
STACKSEG1     ENDS
CODESEG1      SEGMENT
              ASSUME DS:DATASEG1,CS:CODESEG1,SS:STACKSEG1
BEGIN:        MOV AX,DATASEG1
              MOV DS,AX
              MOV AX,STACKSEG1
              MOV SS,AX
              MOV SP,OFFSET ST_PTR

              DISPSTR P1
              INPUTSTR STR1BUFF
              ;MANIPULATE STRINGS

              CALL REVERSE_STR

              DISPSTR P2
              DISPSTR STR2
              ;CALL SECOND PROCEDURE

              CALL LOWER_UPPER

              DISPSTR P3

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        DISPSTR STR3

        MOV AX,4C00H
        INT 21H                ;END OF MAIN PROGRAM

REVERSE_STR    PROC NEAR
        DISPSTR P4
        MOV SI,OFFSET STR1
        MOV DI,OFFSET STR2
        MOV CX,0000H
        MOV CL,STR1BUFF+1
        ADD SI,CX

        BACK:    DEC SI
        MOV AL,[SI]
        MOV [DI],AL
        INC DI
        LOOP BACK
        RET
REVERSE_STR    ENDP
CODESEG1      ENDS
END BEGIN

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;UPPER TO LOWER CASE  FILE
    INCLUDE MACRO.ASM
    PUBLIC LOWER_UPPER
    EXTRN P5:BYTE,STR1BUFF:BYTE,STR1:BYTE,STR3:BYTE

DATASEG1    SEGMENT
            DB 10 DUP(0)
DATASEG1    ENDS
CODESEG2    SEGMENT
            ASSUME CS:CODESEG2,DS:DATASEG1

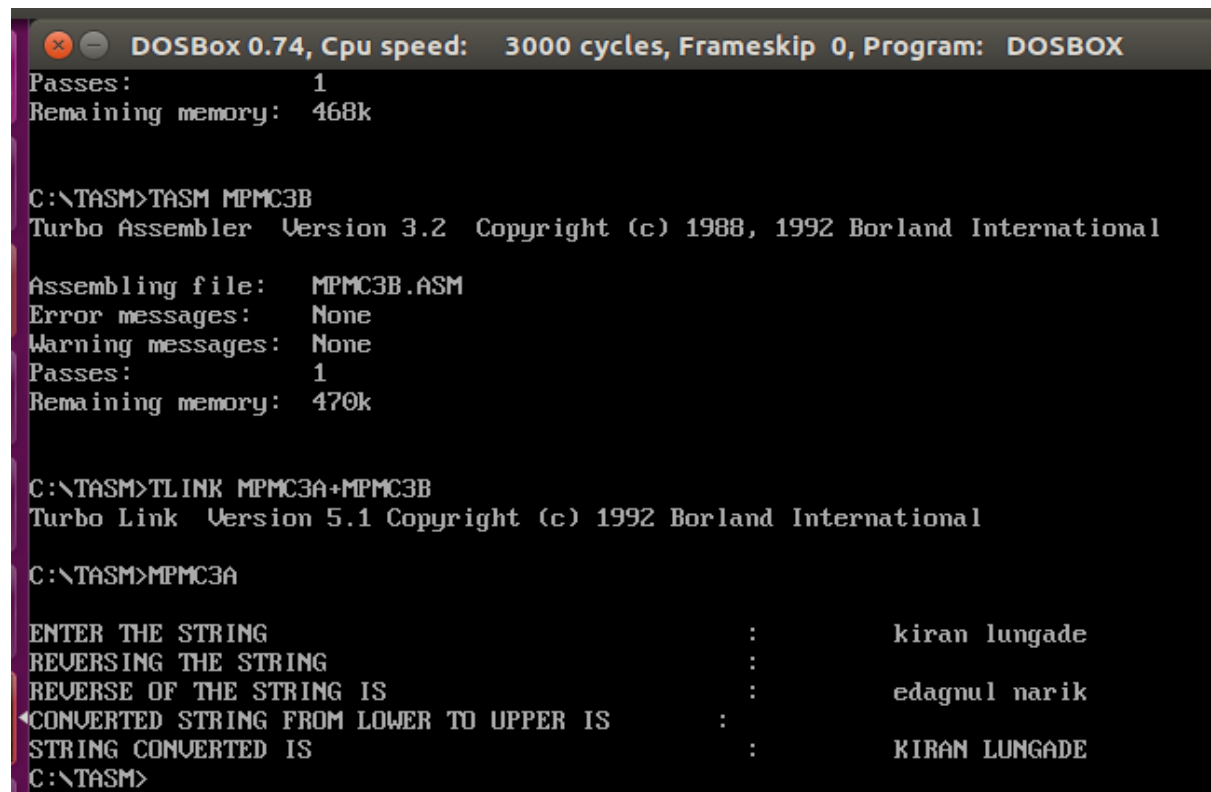
    LOWER_UPPER    PROC FAR
        DISPSTR P5
        MOV SI,OFFSET STR1
        MOV DI,OFFSET STR3
        MOV CX,0000H
        MOV CL,STR1BUFF+1
    BACK: MOV AL,[SI]
        CMP AL,'a'
        JB SKIP
        CMP AL,'z'
        JA SKIP
        SUB AL,20H
    SKIP: MOV [DI],AL
        INC SI
        INC DI
        LOOP BACK

        RET
    LOWER_UPPER    ENDP
CODESEG2    ENDS
            END

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```
;MACRO FILE
INPUTSTR MACRO BUFFADDR
    MOV AH,0AH
    MOV DX,OFFSET BUFFADDR
    INT 21H
ENDM

DISPSTR MACRO STRADDR
    MOV AH,09H
    MOV DX,OFFSET STRADDR
    INT 21H
ENDM
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
Passes: 1
Remaining memory: 468k

C:\TASM>TASM MPMC3B
Turbo Assembler Version 3.2 Copyright (c) 1988, 1992 Borland International

Assembling file: MPMC3B.ASM
Error messages: None
Warning messages: None
Passes: 1
Remaining memory: 470k

C:\TASM>TLINK MPMC3A+MPMC3B
Turbo Link Version 5.1 Copyright (c) 1992 Borland International

C:\TASM>MPMC3A

ENTER THE STRING : kiran lungade
REVERSING THE STRING :
REVERSE OF THE STRING IS : edagnul narik
CONVERTED STRING FROM LOWER TO UPPER IS :
STRING CONVERTED IS : KIRAN LUNGADE
C:\TASM>
```