**Q 1. a) Write a program in assembly language to print single character on screen.**

CODE:

ORG 100h

MOV AH, 09h

MOV DX, OFFSET msg\_enter\_input

INT 21h

MOV AH, 01h

INT 21h

MOV BL, AL

MOV AH, 09h

MOV DX, OFFSET msg\_entered\_input

INT 21h

MOV DL, BL

MOV AH, 02h

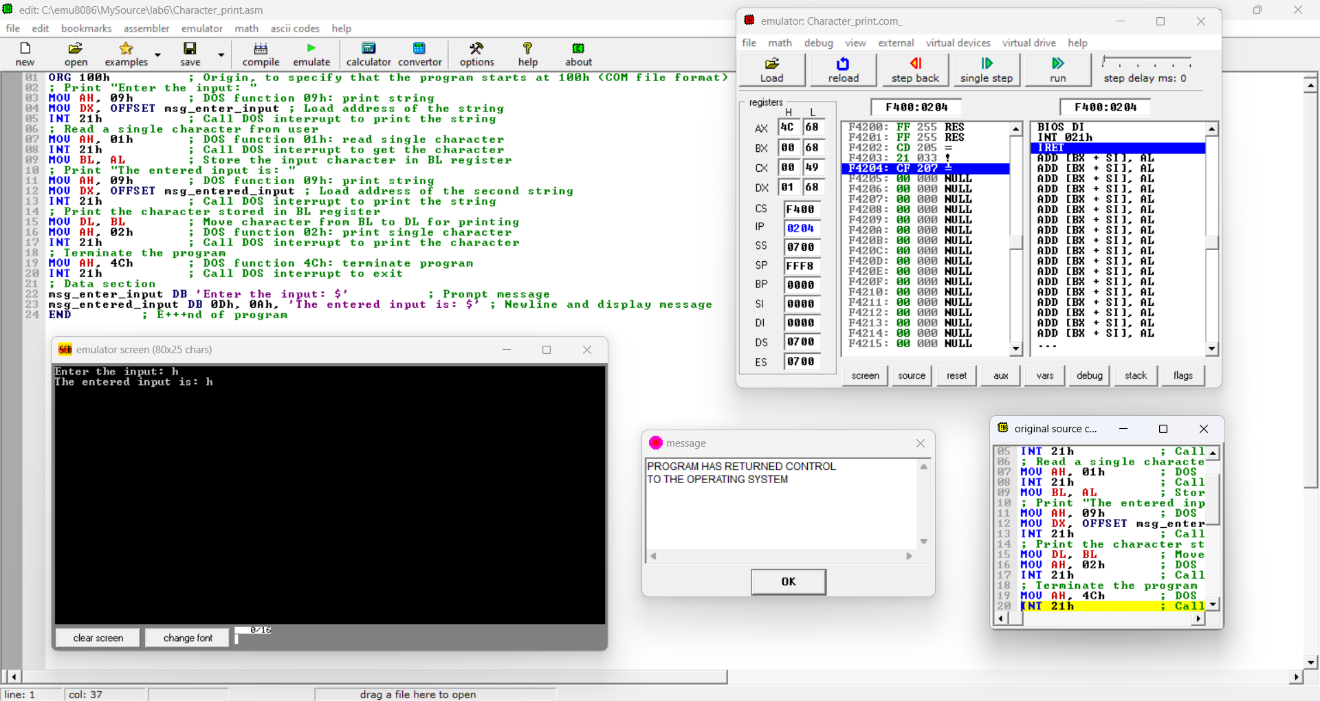
INT 21h

MOV AH, 4Ch

INT 21h

msg\_enter\_input DB 'Enter the input: $'

msg\_entered\_input DB 0Dh, 0Ah, 'The entered input is: $'

END

**Output:**



**Q 1. b) Write an assembly language program to convert an upper-case letter to the corresponding lower-case letter.**

CODE:

ORG 100h

MOV DX, OFFSET prompt\_message

MOV AH, 09h

INT 21h

MOV AH, 01h

INT 21h

MOV DL, AL

CMP AL, 'A'

JL NotUpperCase

CMP AL, 'Z'

JG NotUpperCase

ADD AL, 20h

MOV BL, AL

MOV DX, OFFSET output\_message

MOV AH, 09h

INT 21h

MOV AL, BL

MOV DL, AL

MOV AH, 02h

INT 21h

JMP EndProgram

NotUpperCase:

MOV DX, OFFSET error\_message

MOV AH, 09h

INT 21h

EndProgram:

MOV AH, 4Ch

INT 21h

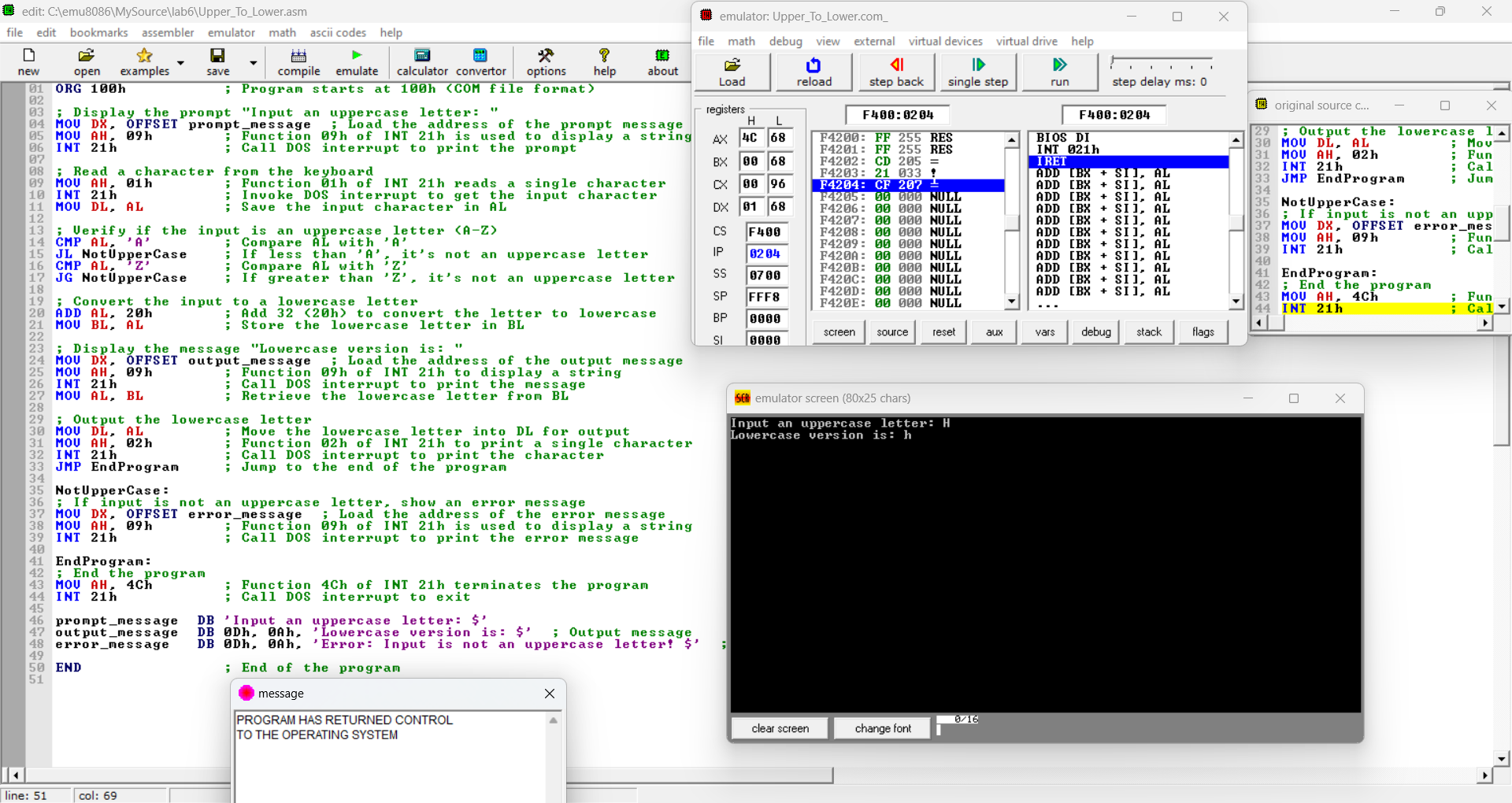
prompt\_message DB 'Input an uppercase letter: $'

output\_message DB 0Dh, 0Ah, 'Lowercase version is: $'

error\_message DB 0Dh, 0Ah, 'Error: Input is not an uppercase letter! $'

END

Output:



**Q 2. a) Write a program in assembly language to print multiple characters on screen.**

CODE:

ORG 100h

MOV AH, 09h

MOV DX, OFFSET msg\_enter\_input

INT 21h

MOV AH, 0Ah

MOV DX, OFFSET input\_buffer

INT 21h

MOV AL, '$'

LEA DI, input\_buffer+2

MOV CL, [input\_buffer+1]

ADD DI, CX

MOV [DI], AL

MOV AH, 09h

MOV DX, OFFSET msg\_entered\_input

INT 21h

LEA DX, input\_buffer+2

MOV AH, 09h

INT 21h

MOV AH, 4Ch

INT 21h

msg\_enter\_input DB 'Enter the input: $'

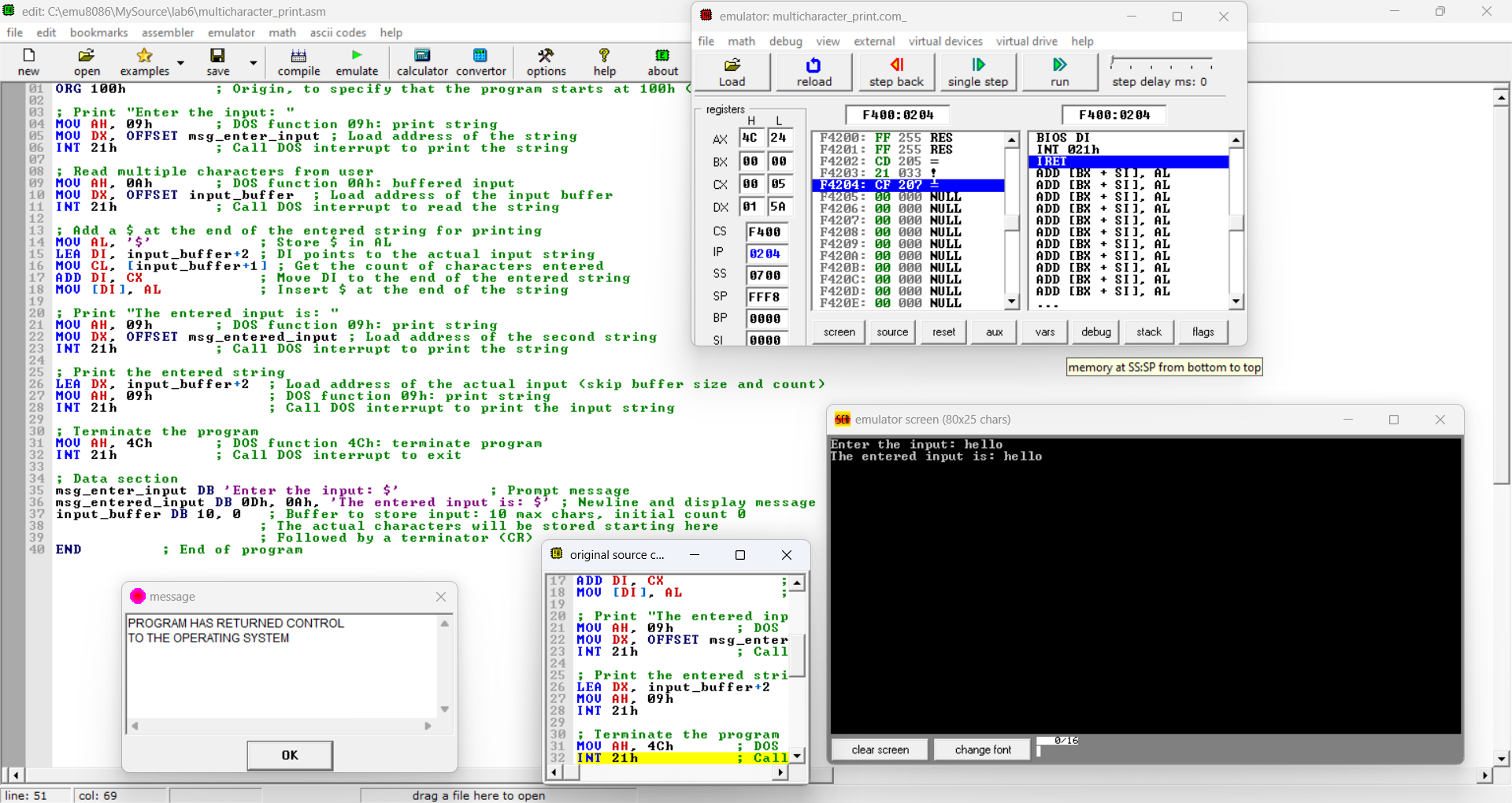
msg\_entered\_input DB 0Dh, 0Ah, 'The entered input is: $'

input\_buffer DB 10, 0

END

Output:





**Q 2. b) Write an assembly language program to convert a lower-case letter to the corresponding upper-case letter.**

CODE:

ORG 100h

MOV DX, OFFSET msg\_input

MOV AH, 09h

INT 21h

MOV AH, 01h

INT 21h

MOV DL, AL

CMP AL, 'a'

JL NotLowerCase

CMP AL, 'z'

JG NotLowerCase

SUB AL, 20h

MOV BL, AL

MOV DX, OFFSET msg\_output

MOV AH, 09h

INT 21h

MOV AL, BL

MOV DL, AL

MOV AH, 02h

INT 21h

JMP EndProgram

NotLowerCase:

MOV DX, OFFSET msg\_error

MOV AH, 09h

INT 21h

EndProgram:

MOV AH, 4Ch

INT 21h

msg\_input DB 'Enter a lowercase letter: $'

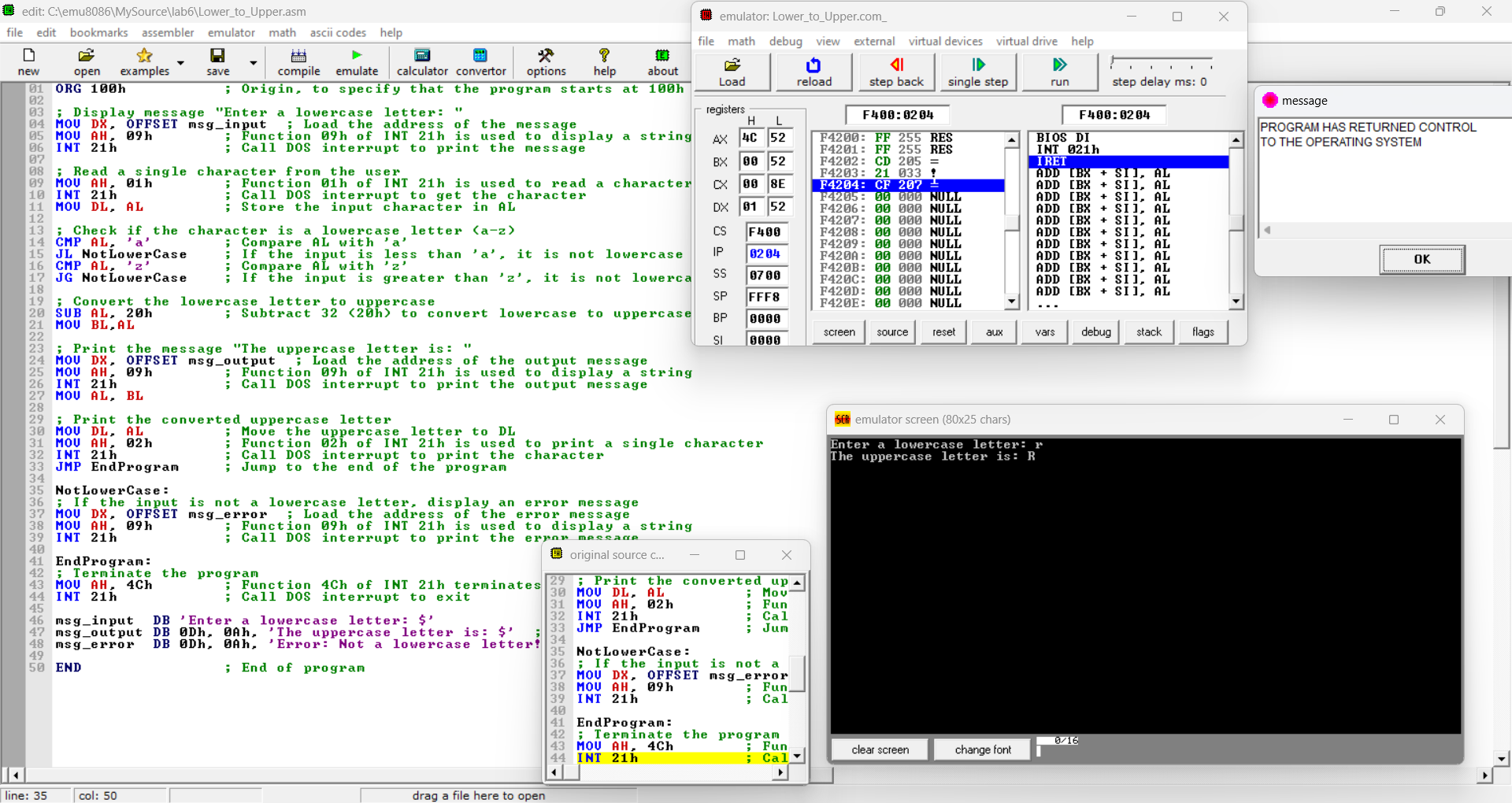
msg\_output DB 0Dh, 0Ah, 'The uppercase letter is: $'

msg\_error DB 0Dh, 0Ah, 'Error: Not a lowercase letter! $'

END

Output:





Git hub Repository link: