RAJSHAHI UNIVERSITY OF ENGINEERING AND TECHNOLOGY

LAB REPORT

Course No: CSE 3110

Date of Submission: 03.07.2019

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Problem: Take a string as input containing uppercase and lowercase letters which will terminate at an asterisk. Then print the first and last uppercase letters of the string.

Code:

```
.MODEL SAMLL
.STACK 100H
.DATA
INPUT_MSG DB 'ENTER A STRING (END WITH A *): $'
OUTPUT_MSG DB 'FIRST AND LAST UPPERCASE LETTER: $'
UPPERCASE_COUNTER DB 0     ;TO FIND FIRST AND LAST UPPERCASE LETTER

.CODE
    MAIN PROC
        MOV AX, @DATA
        MOV DS, AX

        ;INPUT PROMPT
        MOV AH, 9
        LEA DX, INPUT_MSG
        INT 21H

        ;INPUT SECTION
        MOV BL, '*'                    ;TO COMPARE LATER
        INPUT_SECTION:
            MOV AH, 1
            INT 21H

            MOV BH, AL
            ;IF INPUT=='*'
            CMP AL, BL
            JE OUTPUT_SECTION
            ;ELSE IF INPUT>=65 AND INPUT<=90
            MOV AL, BH
            CMP AL, 65
            JB INPUT_SECTION
            MOV AL, BH
            CMP AL, 90
            JA INPUT_SECTION
            ;ELSE
            ;THE INPUT IS UPPERCASE
            CMP UPPERCASE_COUNTER, 0
            JE FIRST_UPPERCASE
            MOV CH, BH
            INC UPPERCASE_COUNTER
            JMP INPUT_SECTION
            FIRST_UPPERCASE:
                MOV CL, BH
                INC UPPERCASE_COUNTER
                JMP INPUT_SECTION

        OUTPUT_SECTION:
            ;TO PRINT NEWLINE
            MOV AH, 2
            MOV DL, 10
            INT 21H
            MOV DL, 13
            INT 21H
```

```
        ;OUTPUT PROMPT
        MOV AH, 9
        LEA DX, OUTPUT_MSG
        INT 21H

        ;PRINT OUTPUT
        MOV AH,2
        MOV DL, CL
        INT 21H
        MOV DL, CH
        INT 21H

    MOV AH, 4CH
    INT 21H
    MAIN ENDP
END MAIN
```
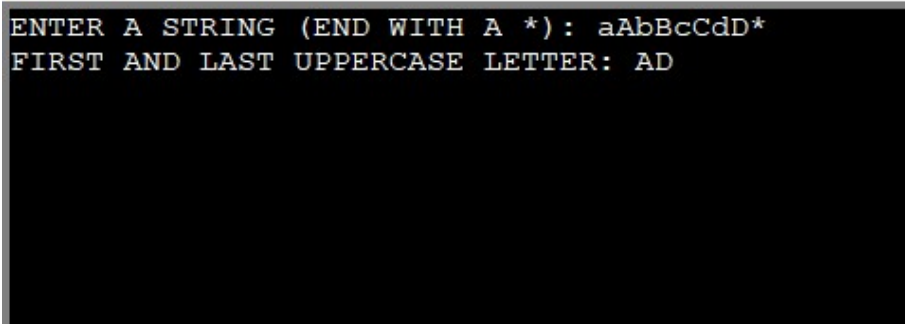
Output:

```
ENTER A STRING (END WITH A *): aAbBcCdD*
FIRST AND LAST UPPERCASE LETTER: AD
```