

Problem statement:

Input a string.Reverse each word of string and print in capitalize form.Print number of vowels in the string.

Code:

```
.MODEL SMALL
.STACK 100H
.DATA
ARR DB 40 DUP('$')

MSG_INP DB 'ENTER A STRING(like:abc def gh):', 0DH, 0AH, '$'
NL DB 0DH, 0AH, '$'
MSG_REV DB 0DH, 0AH, 'REVERSE OF EACH WORD OF THE LINE: $'
MSG_VOWEL DB 0DH, 0AH, 'NUMBER OF VOWEL IN INPUT STRING: $'

CNT_V DB ?

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

    MOV AH, 9
    LEA DX, MSG_INP ; INPUT PROMT
    INT 21H

    LEA DX, ARR
    MOV AH, 10
    INT 21H ; INPUT STRING UNTIL CARRIAGE RETURN 0DH

    LEA DX, MSG_REV
    MOV AH, 9
    INT 21H

    LEA SI, ARR ; ADDRESS 1ST ELEMENT OF ARRAY
    ADD SI, 2
    MOV CNT_V, 0 ; NO OF VOWEL=0

CMP_LOOP:
    MOV AL, [SI]
    CMP AL, 0DH ; IF CARRIAGE RETURN END INPUT 0DH/13
    JE END_CMP

    PUSH SI
    MOV CX, 0

REV_WORD:
    MOV AL, [SI]
    CMP AL, ' ' ; AH=0 & AL=' '
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    JE END_REVW

    MOV AL,[SI]
    CMP AL,0DH
    JE END_REVW

    ;PUSH A WORD IN STACK
    MOV AL,[SI]
    PUSH AX
    INC SI
    INC CX
    JMP REV_WORD
END_REVW:

CNT_VOWEL:

POP AX
CMP AL,'a'
JE INC_VOWEL
CMP AL,'e'
JE INC_VOWEL
CMP AL,'i'
JE INC_VOWEL
CMP AL,'o'
JE INC_VOWEL
CMP AL,'u'
JE INC_VOWEL

PRINT:
    JMP CONTINUE_LOOP

INC_VOWEL:
    INC CNT_V

CONTINUE_LOOP:
    MOV DL,AL
    SUB DL,32
    MOV AH,2
    INT 21H

    LOOP CNT_VOWEL

    ;PRINT SPACE
    MOV DL,' '
    MOV AH,2
    INT 21H

    INC SI
    JMP CMP_LOOP

END_CMP: ;END OF STRING

LEA DX,MSG_VOWEL

```

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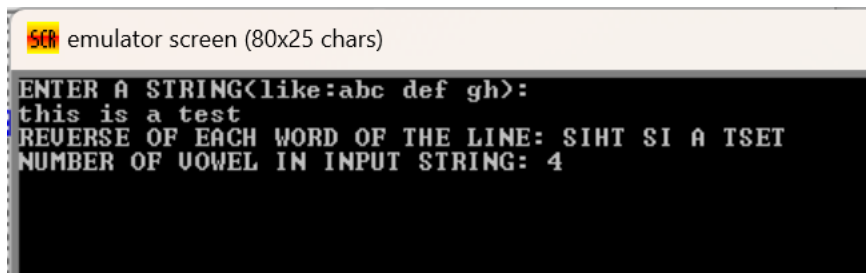
MOV AH, 9
INT 21H

MOV AL, CNT_V
ADD AL, 30H; CONVERT NUMBER TO ASCII VALUE
MOV DL, AL
MOV AH, 2
INT 21H

EXIT:
MOV AH, 4CH
INT 21H
MAIN ENDP
END MAIN
;input a line: this is a test
;output: SIHT SI A TSET
;no of vowels: 4

```

Output:



emulator screen (80x25 chars)

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ENTER A STRING<like:abc def gh>:
this is a test
REVERSE OF EACH WORD OF THE LINE: SIHT SI A TSET
NUMBER OF VOWEL IN INPUT STRING: 4

```