

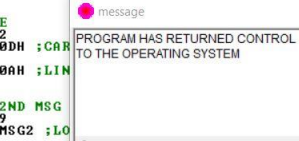
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edit: C:\emu8086\MySource\EXCHANGE OF TWO VARIABLES.asm
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01 ;A PROGRAM TO EXCHANGE OF TWO VARIABLES
02
03 .MODEL SMALL
04
05 .STACK 100H
06
07 .DATA ; ALL VARIABLES WILL GO HERE
08 MYCHAR1 DB 'A'
09 MYCHAR2 DB 'Z'
10 MSG1 DB 'VALUE IN FIRST MYCHAR1 $'
11 MSG2 DB 'VALUE IN FIRST MYCHAR2 $'
12
13 .CODE
14 MAIN PROC
15 ;LOAD THE DATA SEGMENT - IF YOU HAVE VARIABLES
16 MOV AX,DATA ;ADDRESS OF DATA SEGMENT OR ZONE OF MEMORY WHERE VARIABLES ARE KEPT
17 MOV DS,AX ;MUST BE LOADED INTO DATA SEGMENT REGISTER
18
19 ;SHOW MSG
20 MOV AH,9
21 LEA DX,MSG1 ;LOAD STRING MSG IN DX
22 INT 21H
23 ;show mychar1
24 MOV AH,2 ;PRINT SINGLE CHARACTER
25 MOV DL,MYCHAR1
26 INT 21H
27
28 ;NEWLINE
29 MOV AH,2
30 MOV DL,0DH ;CARRIAGE RETURN <START OF LINE IN LEFT>
31 INT 21H
32 MOV DL,0AH ;LINE PRINT <NEW LINE>
33 INT 21H
34
35 ;SHOW 2ND MSG
36 MOV AH,9
37 LEA DX,MSG2 ;LOAD STRING MSG IN DX
38 INT 21H
39 ;show mychar2
40 MOV AH,2 ;PRINT SINGLE CHARACTER
41 MOV DL,MYCHAR2
42 INT 21H
43
44 ;EXCHANGE TWO VARIABLES
45 MOV BL,MYCHAR1 ;BL = A
46 XCHG BL,MYCHAR2 ;BL = Z AND MYCHAR2 = A
47 MOV MYCHAR1,BL ;MYCHAR1 = Z
48
49 ;NEWLINE
50 MOV AH,2
51 MOV DL,0DH ;CARRIAGE RETURN <START OF LINE IN LEFT>
52 INT 21H
53 MOV DL,0AH ;LINE PRINT <NEW LINE>
54 INT 21H
55
56 ;SHOW MSG AGAIN
57 MOV AH,9
58 LEA DX,MSG1 ;LOAD STRING MSG IN DX
59 INT 21H
60 ;show mychar1
61 MOV AH,2 ;PRINT SINGLE CHARACTER
62 MOV DL,MYCHAR1
63 INT 21H
64
65 ;NEWLINE
66 MOV AH,2
67 MOV DL,0DH ;CARRIAGE RETURN <START OF LINE IN LEFT>
68 INT 21H
69 MOV DL,0AH ;LINE PRINT <NEW LINE>
70 INT 21H
71
72 ;SHOW 2ND MSG
73 MOV AH,9
74 LEA DX,MSG2 ;LOAD STRING MSG IN DX
75 INT 21H
76 ;show mychar2
77 MOV AH,2 ;PRINT SINGLE CHARACTER
78 MOV DL,MYCHAR2
79 INT 21H
80
81 ;WE HAVE TO RETURN CONTROL TO DOS
82 MOV AH,4CH
83 INT 21H ;CALL TO DOS
84
85 MAIN ENDP ;END OF MAIN PROCEDURE
86 ;CAN LOAD OTHER PROCEDURES
87
88 END MAIN ;END OF PROGRAM
89
90
91
```

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Output



The screenshot shows a terminal window with assembly code and a message box. The assembly code is as follows:

```

AH.2 ; PRINT SINGLE CHARACTER
DL,MYCHAR1
21H

JLINE
AH.2
DL,0DH ;CAR
21H
DL,0AH ;LIN
21H

JOU 2ND MSG
AH.9
DX,MSG2 ;LO
21H
movchar2
AH.2 ; PRIN
DL,MYCHAR2
21H

```

A message box is displayed in the foreground with the text: "PROGRAM HAS RETURNED CONTROL TO THE OPERATING SYSTEM". The message box has a pink title bar and a white body. Below the text is an "OK" button.

