

PROGRAM 1:

emu8086 - assembler and microprocessor emulator 4.08

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01 org 0100h
02 .DATA
03 X DB ?
04 X1 DB "ENTER VALUE OF X: $"
05 Y DB ?
06 Y1 DB "ENTER VALUE OF Y: $"
07 Z1 DB ?
08 Z11 DB "Z=X+Y IS: $"
09 Z2 DB ?
10 Z22 DB "Z=X-Y+1 IS: $"
11 .CODE
12 MAIN PROC
13     MOV AX,@DATA
14     MOV DS,AX
15     ;FOR INPUT MSG OF X
16     MOV AH,9
17     LEA DX,X1
18     INT 21H
19     ;FOR INPUT X
20     MOV AH,1
21     INT 21H
22     MOV X,AL
23     ;FOR NEW LINE
24     MOV AH,2
25     MOV DL,0DH
26     INT 21H
27     MOV DL,0AH
28     INT 21H
29     ;FOR INPUT MSG OF Y
30     MOV AH,9
31     LEA DX,Y1
32     INT 21H
33     ;FOR INPUT Y
34     MOV AH,1
35     INT 21H
36     MOV Y,AL
37     ;FOR NEW LINE
38     MOV AH,2
39     MOV DL,0DH
40     INT 21H
41     MOV DL,0AH
42     INT 21H
43     ;FOR STORE Z=X+Y
44     MOV AL,X
45     ADD AL,Y
46     SUB AL,'0'
47     MOV Z1,AL
48     ;FOR OUTPUT MSG OF Z=X+Y
49     MOV AH,9
50     LEA DX,Z11
51     INT 21H
52     ;FOR OUTPUT Z=X+Y
53     MOV AH,2
54     MOV DL,Z1
55     INT 21H
56     ;FOR NEW LINE
57     MOV AH,2
58     MOV DL,0DH
59     INT 21H
```

line: 84 col: 1 drag a file here to open

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56      ;FOR NEW LINE
57      MOV AH,2
58      MOV DL,0DH
59      INT 21H
60      MOV DL,0AH
61      INT 21H
62      ;FOR STORE Z=X-Y+1
63      MOV AL,X
64      SUB AL,Y
65      ADD AL,'0'
66      ADD AL,1D
67      MOV Z2,AL
68      ;FOR OUTPUT MSF OF Z=X-Y+1
69      MOV AH,9
70      LEA DX,Z22
71      INT 21H
72      ;FOR OUTPUT Z=X-Y+1
73      MOV AH,2
74      MOV DL,Z2
75      INT 21H
76      ;FOR RETURN
77      MOV AH,4CH
78      INT 21H
79
80
81      MAIN ENDP
82  END MAIN
83  RET
84  |

```

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emulator screen (80x25 chars)

```

ENTER VALUE OF X: 5
ENTER VALUE OF Y: 4
Z=X+Y IS: 9
Z=X-Y+1 IS: 2

```

PROGRAM 2:

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01  org 0100h
02  .DATA
03  X DB ?
04  Z DB ?
05  .CODE
06  MAIN PROC
07      MOV AX, @DATA
08      MOV DS, AX
09      ;FOR INPUT X
10      MOV AH, 1
11      INT 21H
12      MOV X, AL
13      ;FOR NEW LINE
14      MOV AH, 2
15      MOV DL, 0DH
16      INT 21H
17      MOV DL, 0AH
18      INT 21H
19      ;FOR DETERMINE UPPER AND LOWER
20      MOV AL, X
21      CMP AL, 'Z'
22      ;IF LOWER
23      JG UPPER
24      ;IF UPPER
25      MOV AL, X
26      ADD AL, 32D
27      MOV Z, AL
28      JMP LOWER
29      ;THEN LOWER
30      UPPER:
31      MOV AL, X
32      SUB AL, 32D
33      MOV Z, AL
34      ;THER UPPER
35      LOWER:
36      ;FOR OUTPUT
37      MOV AH, 2
38      MOV DL, Z
39      INT 21H
40      ;FOR RETURN
41      MOV AH, 4CH
42      INT 21H
43
44
45  MAIN ENDP
46  END MAIN
47  RET
48
49
50
51
52
```

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SCR emul

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