

# Experiment 3

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.MODEL SMALL

.STACK 100H

.DATA

    ARRAY DB 10, 25, 15, 40, 5, 30, 50, 20

    LEN EQU \$ - ARRAY

    MIN DB 0

    MAX DB 0

.CODE

MAIN PROC

    MOV AX, @DATA

    MOV DS, AX

    MOV SI, 0

    MOV AL, ARRAY[SI]

    MOV MIN, AL

    MOV MAX, AL

FIND\_MIN\_MAX:

    MOV AL, ARRAY[SI]

    CMP AL, MAX

    JG UPDATE\_MAX

    CMP AL, MIN

JL UPDATE\_MIN

JMP NEXT\_ELEMENT

UPDATE\_MAX:

MOV MAX, AL

JMP NEXT\_ELEMENT

UPDATE\_MIN:

MOV MIN, AL

NEXT\_ELEMENT:

INC SI

CMP SI, LEN

JL FIND\_MIN\_MAX

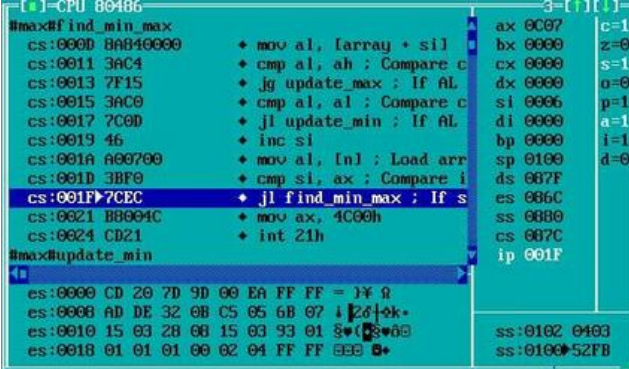
MOV AX, 4C00H

INT 21H

MAIN ENDP

END MAIN

OUTPUT:



The screenshot shows a debugger window with the following content:

| Address         | Disassembly             | Comment                   | Register/Value |
|-----------------|-------------------------|---------------------------|----------------|
| cs:0000         | BAB40000                | + mov al, larray + sil    | ax: 0007       |
| cs:0011         | 3AC4                    | + cmp al, ah ; Compare c  | bx: 0000       |
| cs:0013         | 7F15                    | + jg update_max ; If AL   | cx: 0000       |
| cs:0015         | 3AC0                    | + cmp al, al ; Compare c  | dx: 0000       |
| cs:0017         | 7C0D                    | + jl update_min ; If AL   | si: 0006       |
| cs:0019         | 46                      | + inc si                  | di: 0000       |
| cs:001A         | A00700                  | + mov al, [n1] ; Load arr | bp: 0000       |
| cs:001D         | 3BF0                    | + cmp si, ax ; Compare i  | sp: 0100       |
| cs:001F         | 7CEC                    | + jl find_min_max ; If s  | ds: 007F       |
| cs:0021         | B8004C                  | + mov ax, 4C00h           | es: 006C       |
| cs:0024         | CD21                    | + int 21h                 | ss: 0080       |
| #max#update_min |                         |                           | cs: 007C       |
|                 |                         |                           | ip: 001F       |
| <hr/>           |                         |                           |                |
| es:0000         | CD 20 7D 9D 00 EA FF FF | = 17 0                    |                |
| es:0008         | AD DE 32 0B C5 05 6B 07 | i 26 ok                   |                |
| es:0010         | 15 03 28 0B 15 03 93 01 | 8 0 0 0                   |                |
| es:0018         | 01 01 01 00 02 04 FF FF | 0 0 0 0                   |                |