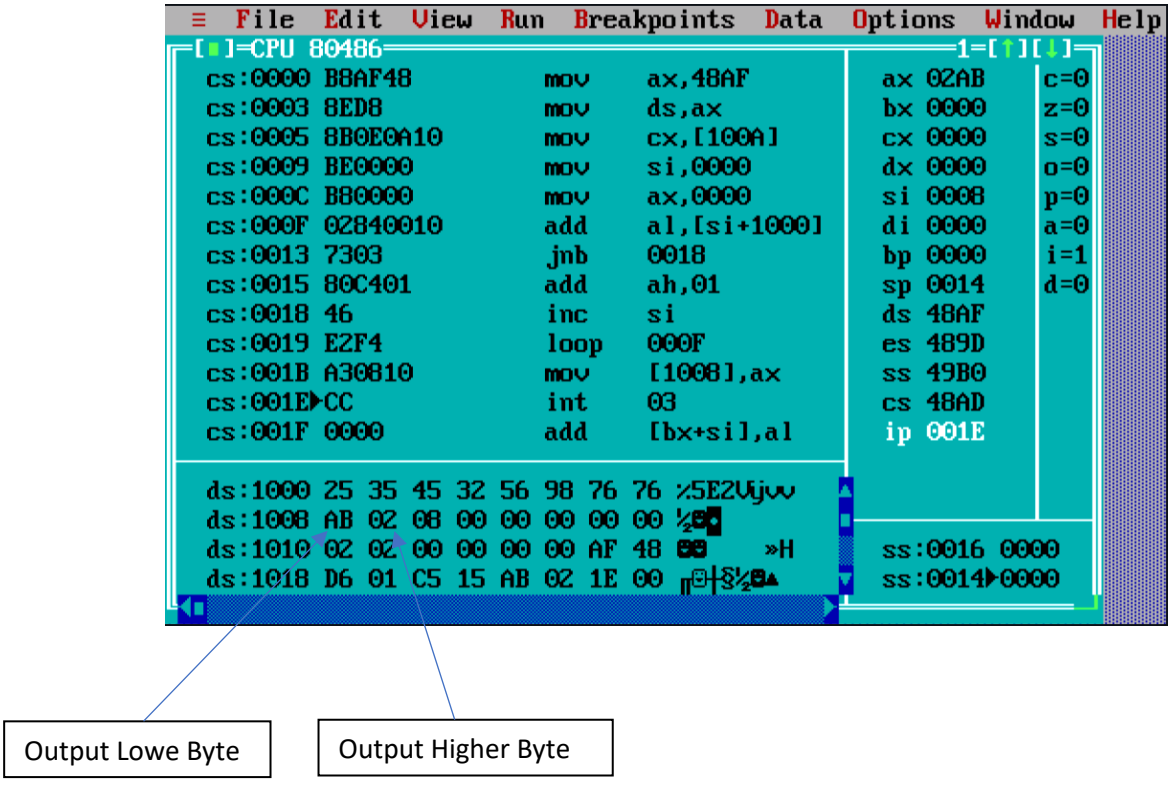
P1:

`

```
MODEL SMALL
STACK 20
DATA
ORG 1000H
NUM DB 25H, 35H, 45H, 32H, 56H, 98H, 76H, 76H
SUM DW ?
COUNT DW 0008H
CODE
START:
MOV AX, @DATA
MOV DS, AX
MOV CX, COUNT
MOV SI, 0000H
MOV AX, 0000H
REPEAT:
ADD AL, NUMESI]
JNC NEXT
ADD AH, 01
NEXT:
INC SI
LOOP REPEAT
MOV SUM, AX
INT 3
END START
```

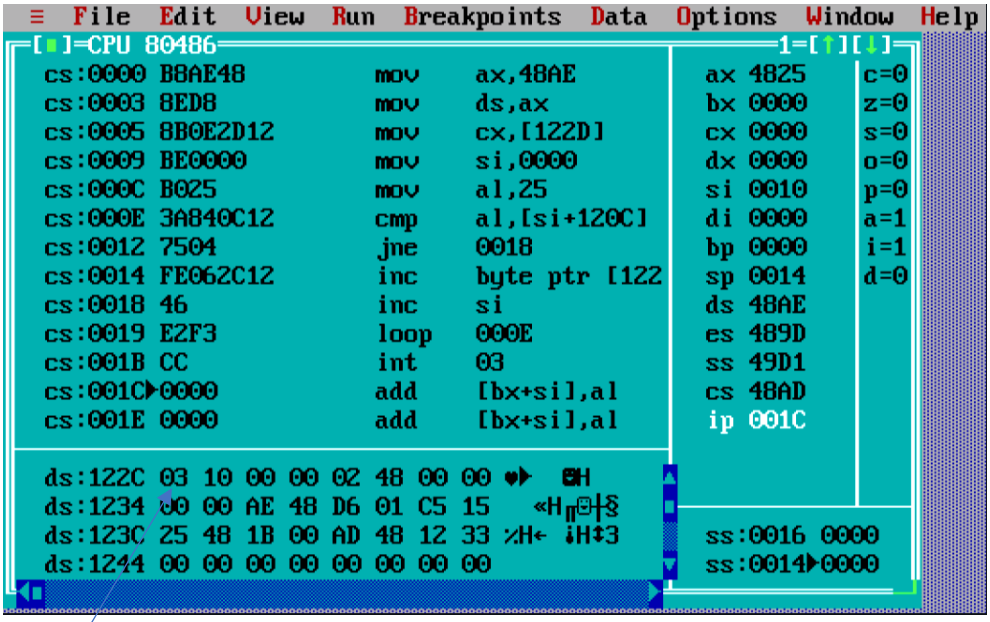


Output Lowe Byte

Output Higher Byte

P2:

```
.MODEL SMALL
.STACK 20
.DATA
ORG 1200H
ARRAY DB 25H, 35H, 45H, 32H, 56H, 25H, 76H, 76H, 28H, 56H, 05H, 35H,
25H, 00H, 98H, 21H
ORG 1220H
RES DB ?
COUNT DW 0010H
.CODE
START:
MOV AX, @DATA
MOV DS, AX
MOV CX, COUNT
MOV SI, 0000H
MOV AL, 25H
REPEAT:
CMP AL, ARRAY[SI]
JNE NEXT
INC RES
NEXT:
INC SI
LOOP REPEAT
INT 3
END START
```

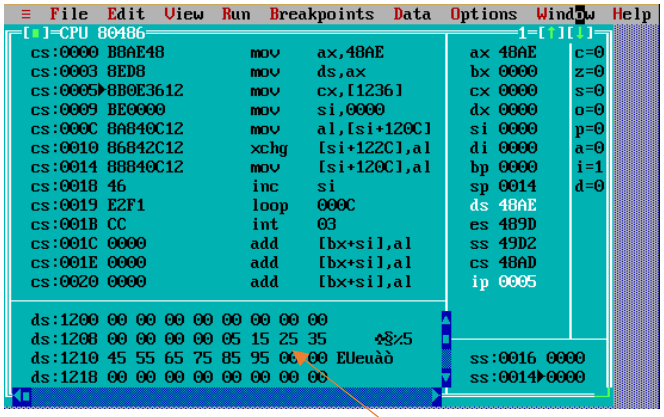


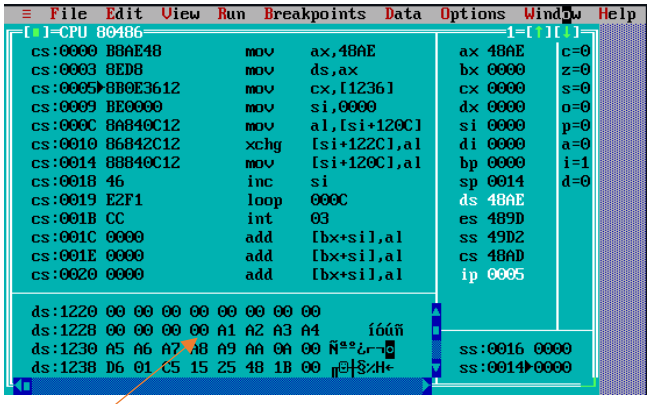
Output

P3:

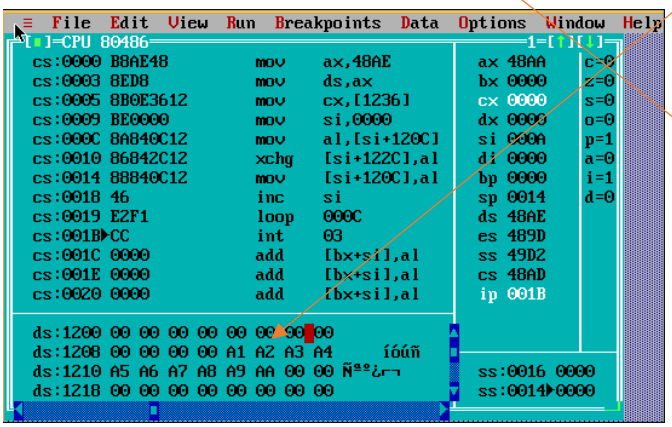
```
MODEL SMALL
STACK 20
DATA
ORG 1200H
ARRAY1 DB 05H, 15H, 25H, 35H, 45H, 55H, 65H, 75H, 85H, 95H
ORG 1220H
ARRAY2 DB 0A1H, 0A2H, 0A3H, 0A4H, 0A5H, 0A6H, 0A7H, 0A8H, 0A9H,
0AAH
COUNT DW 000AH
CODE
START:
MOV AX, @DATA
MOV DS, AX
MOV CX, COUNT
MOV SI, 0000H
REPEAT:
MOV AL, ARRAY1[SI]
XCHG AL, ARRAY2[SI]
MOV ARRAY1[SI], AL
INC SI
LOOP REPEAT
INT 3
END START
```

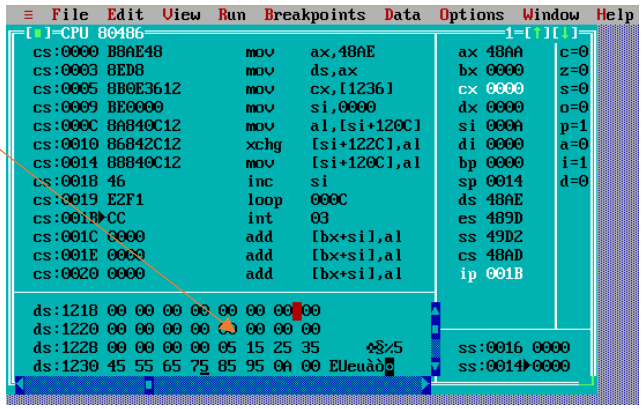
Before:





After:

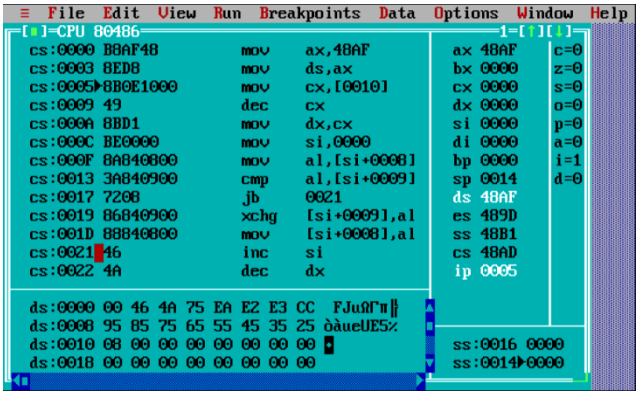




P4:

```
MODEL SMALL
STACK 20
DATA
NUM DB 11H, 21H, 31H, 31H, 55H, 45H, 35H, 25H
COUNT DW 0008H
CODE
START:
MOV AX, @DATA
MOV DS, AX
MOV CX, COUNT
DEC CX
NEXT:
MOV DX, CX
MOV SI, 0000H
REPEAT:
MOV AL, NUMBSI]
CMP AL, NUMBSI + 1]
JC NOEX
XCHG AL, NUMBSI +1]
MOV NUMBSI], AL
NOEX: INC SI
DEC DX
JNZ REPEAT
LOOP NEXT
INT 3
END START
```

Before sorting:



After sorting: