

- MODEL SMALL  
 DISPLAY MACRO MSG  
 LEA DX, MSG  
 MOV AH, 09H  
 INT 21H  
 ENDM

- DATA  
 LIST DB 02H, 01H, 34H, 0F4H, 09H, 05H  
 NUMBER EQU \$-LIST  
 MSG1 DB 0DH, 0AH, "1-SORT IN ASCENDING ORDER \$"  
 MSG2 DB 0DH, 0AH, "2-SORT IN DESCENDING ORDER \$"  
 MSG3 DB 0DH, 0AH, "3-EXIT \$"  
 MSG4 DB 0DH, 0AH, "ENTER YOUR CHOICE: \$"  
 MSG5 DB 0DH, 0AH, "INVALID CHOICE ENTERED... \$"

- CODE  
 START : MOV AX, @DATA  
 MOV DS, AX  
 LEA SI, LIST  
 MOV CH, NUMBER-1 ; STORES THE NUMBER OF ELEMENTS IN LIST  
 DISPLAY MSG1 ; DISPLAY THE MENU...  
 DISPLAY MSG2  
 DISPLAY MSG3  
 DISPLAY MSG4  
 MOV AH, 01H  
 INT 21H  
 SUB AL, 30H  
 CMP AL, 01H ; INPUT=1 ? SORT IN ASCENDING ORDER  
 JE ASCSORT  
 CMP AL, 02H ; INPUT=2 ? SORT IN DESCENDING ORDER  
 JE DESSORT  
 CMP AL, 03H ; INPUT=3 ? EXIT  
 JE FINAL

DISPLAY MSG 5

JMP FINAL

ASC SORT : MOV BL, 00H

AGAIN : MOV SI, OFFSET LIST

MOV CL, 00H ; J VALUE

MOV BH, CH

SUB BH, BL ; N-1-i

NPASS: CMP CL, BH

JNC NEXT

MOV AL, [SI]

MOV BP, 01H

CMP AL, DS:[BP][SI]

JC NOPE

~~XCHG~~ XCHG AL, [SI+1]

XCHG [SI], AL

-NOPE : INC CL

INC SI

JMP NPASS

NEXT : INCBL

CMP BL, CH

JC AGAIN

JMP FINAL

DESSORT: MOV BL, 00H

MOV SI, OFFSET LIST

MOV CL, 00H ; J VALUE

MOV BH, CH

SUB BH, BL ; N-1-i

NPASS1 : CMP CL, BH

JNC NEXT

MOV AL, [SI]

MOV BP, 01H

CMP AL, DS:[BP][SI]

JNC NOPE1

XCHG AL, [SI+1]

XCHG [SI], AL

-NOPE1: INC CL

INC SI

JMP NPASS1

NEX1: INC BL

CMP BL, CH

JC AGAIN1

FINAL: MOV AH, 4CH

INT 21H

END START (2)