

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 ... \$"

.CODE

START: MOV AX, @DATA

MOV DS, AX

LEA SI, LIST

MOV CX, NUMBER-1 ; CL 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 ASCORT

CMP AL, 02H ; INPUT=2? SORT IN DESCENDING ORDER

JE DESSORT

CMP AL, 03H ; INPUT=3? EXIT

JE FINAL

ASCORT: 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 ~~AX~~^{AX}, [SI]

MOV BP, 01H

CMP AL, DS:[BP][SI]

JC -NOPE

XCHG AL, [SI+1]

XCHG [SI], AL

-NOPE: INC CL

INC SI

JMP NPASS

NEXT: INC BL

CMP BL, CH

JC AGAIN

JMP FINAL

DESCORT: MOV BL, 00H

AGAIN1: MOV SI, OFFSET LIST

MOV CL, 00H ; J VALUE

MOV BH, ~~CH~~ CH

SUB BH, BL

NPASS1: CMP CL, BH

JNC NEXT

MOV AL, [SI]

MOV BP, 01H

CMP AL, DS:[BP][SI]

Date ___/___/___

Saathi

JNC - NOPE1

XCHG AL, [SI-1]

XCHG [SI], AL

NOPE1: INC CL

INC SI

JMP NPASS1

NEXT1: INC BL

CMR BL, CH

JC AGAIN1

FINAL: MOV AH, 4CH

INT 21H

END START