

LAB2: Bubble sort.

.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 >> SHORT 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

DISPLAY MSG1

DISPLAY MSG2

DISPLAY MSG3

DISPLAY MSG4

MOV AH, 01H

INT 21H


```
SUB AL, 30H
CMP AL, 01H
JE ASCSORT
CMP AL, 02H
JE DESC SORT
CMP AL, 03H
JE FINALE
DISPLAY MSG 5
JMP FINALE
```

```
ASC SORT : MOV BL, 00H
AGAIN : MOV SI, OFFSET LIST
MOV CL, 00H
MOV BH, CH
SUB BH, BL
```

```
NPASS : CMP CL, BH
JNC NEXT
MOV AL, [SI]
MOV BP, 01H
CMP AL, DS : [BP][SI]
JC -NOPE
XCHG AL, [SI+1]
XCHG [SI], AL
```

```
-NOPE : INC CL
INC SI
JMP INPASS
```

```
NEXT : INC BL
      CMP BL, CH
      JC AGAIN
      JMP FINAL
```

```
DESSORT : MOV BL, 00H
```

```
AGAIN1 : MOV SI, OFFSET LIST
        MOV CL, 00H
        MOV BH, CH
        SUB BH, BL
```

```
NPASS1 : CMP CL, BH
        JNC NEXT
        MOV AL, [SI]
        MOV BP, 04H
        CMP AL, DS:[BP][SI]
        JNC -NOPE1
        XCHG AL, [SI+1]
        XCHG [SI], AL
```

```
-NOPE1 : INC CL
        INC SI
        JMP NPASS1
```

```
NEXT1 : INC BL
        CMP BL, CH
        JC AGAIN1
```


FINAL : MOV AH, 4CH
INT 21H

END START.