

Lab Experiment 3 : BUBSORT

• MODEL SMALL

DISPLAY MACRO MSG
LEA DX, MSG
MOV AH, 09H
INT 21H

ENDM

• DATA

LIST DB 02H, 04H, 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, "4>> ENTER YOUR CHOICE :: \$"

MSG5 DB 0DH, 0AH, "5>> INVALID CHOICE ENTERED .. \$"

• CODE

START : MOV AX, @DATA
MOV DX, 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, 04H
JE ASCSORT
CMP AL, 02H
JE DESSORT
CMP AL, 03H
JE FINAL
DISPLAY MSG5
JMP FINAL

ASCSORT : 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 NPASS
NEXT:  INC BL
      CMP BL, CH
      JC AGAIN
      JMP FINAL
DESSORT: MOV BL, 00H
AGAIN:  MOV SI, OFFSET LIST
      MOV CL, 00H
      MOV BH, CH
      SUB BH, BL
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
NEXT1:  INC BL
      CMP BL, CH
      JC AGAIN1
FINAL:  MOV AH, 4CH
      INT 21H

```

END START