

Lab Day:4

(Bubble Sort)

Asseendin Order:

- model small
- data

n db 5

a db 05, 07, 04, 03, 06

- Code

MOV ax, @data

MOV DS, ax

MOV CL, n

DEC CL

outloop: MOV CH, CL

MOV SI, 00H

inloop: MOV AL, a[SI]

INC SI

CMP AL, a[SI]

JNC NOexch

XCHG AL, a[SI]

MOV a[SI-1], AL

noexch: DEC CH

JNZ inloop

DEC CL

JNC outloop

MOV AH, 4CH

INT 21H

END

Lab 5: Menu Driven Bubble Sort (BSM.ASM)

• 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 DECE
NDING 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 CX, 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 DESSORT

CMP AL, 03H

JE FINAL

DISPLAY MSG5

JMP FINAL

ASC SORT: MOV BL, 00H

AGAIN: MOV ~~BL~~ 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

JMP FINAL

DESSORT: 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]
JNC_NOPE1
XCHG AL, [SI+1]
XCHG [SI], AL
_NOPE1: INC CL
INC SI
JMP NPASS1
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```
NEXT1: INC BL
CMP BL, CH
JC AGAIN1
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FINAL: MOV AH, 4CH
INT 21H
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```
END START.
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