

```

PROGRAM:
CODE SEGMENT
ASSUME CS:CODE
START:
XOR AX,AX
MOV BL,AL
MOV CL,AL
MOV SI,2000H
MOV BL,[SI]
DEC BL
L3:
MOV CL,BL
MOV SI,3000H
L2:
MOV AL,[SI]
CMP AL,[SI+1]
JGE L1
XCHG AL,[SI+1]
MOV [SI],AL
L1:
INC SI
LOOP L2
DEC BL
JNZ L3
INT 3
CODE ENDS
END START

```

OUTPUT:

```

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
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Run File [SORT2.EXE]:
List File [NUL.MAP]:
Libraries [.LIB]:
LINK : warning L4021: no stack segment

C:\>DEBUG SORT2.EXE
-E 2000 3
-E 3000 30 35 10
-G

AX=0035 BX=0000 CX=0000 DX=0000 SP=0000 BP=0000 SI=3001 DI=0000
DS=075A ES=075A SS=0769 CS=076A IP=0026  NV UP EI PL ZR NA PE NC
076A:0026 CC          INT      3
-D DS:3000
075A:3000  35 30 10 50 8B 5E FE D1-E3 D1 E3 8B 36 7E 21 FF  50.P.^.....6~?.
075A:3010  70 02 FF 30 E8 19 E4 83-C4 08 89 46 FA 89 56 FC  p..0.....F..U.
075A:3020  C4 5E FA 26 8A 47 05 BE-0A 27 8A 1C FF 04 2A FF  .^.&.G...'.*..
075A:3030  8B 36 E0 25 88 00 A1 26-22 48 50 E8 3A 13 83 C4  .6.%...&'HP.:...
075A:3040  02 5E 8B E5 5D C3 55 8B-EC 83 EC 06 A1 A8 09 05  .^..l.U.....
075A:3050  06 00 3B 06 A8 09 73 08-8B 46 04 8B E5 5D C3 90  ..:...s..F...l..
075A:3060  8B 46 04 89 46 FA 8B 46-06 8B 56 08 89 46 FC 89  .F..F..F..U..F..
075A:3070  56 FE B8 FF FF 50 A1 A8-09 2B D2 03 C2 81 D2 94  U....P...+.....
-s

```

```
PROGRAM:
DATA SEGMENT
STRING1 DB 99H,12H,56H,45H,36H
DATA ENDS
CODE SEGMENT
ASSUME CS:CODE,DS:DATA
START:
MOV AX,DATA
MOV DS,AX
MOV CH,04H
UP2:
MOV CL,04H
LEA SI,STRING1
UP1:
MOV AL,[SI]
MOV BL,[SI+1]
CMP AL,BL
JNC DOWN
MOV DL,[SI+1]
XCHG [SI],DL
MOV [SI+1],DL
DOWN:
INC SI
DEC CL
JNZ UP1
DEC CH
JNZ UP2
INT 3
CODE ENDS
END START
```

OUTPUT:

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Microsoft (R) Overlay Linker Version 3.60
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Run File [SORT1.EXE]:
List File [NUL.MAP]:
Libraries [.LIB]:
LINK : warning L4021: no stack segment

C:\>DEBUG SORT1.EXE
-G
AX=0736 BX=0012 CX=0000 DX=0012 SP=0000 BP=0000 SI=0004 DI=0000
DS=076A ES=075A SS=0769 CS=076B IP=0027 NU UP EI PL ZR NA PE NC
076B:0027 CC INT 3
-D DS:0000
076A:0000 99 56 45 36 12 00 00 00-00 00 00 00 00 00 00 .UE6.....
076A:0010 B8 6A 07 8E D8 B5 04 B1-04 8D 36 00 00 8A 04 8A .j.....6.....
076A:0020 5C 01 3A C3 73 08 8A 54-01 86 14 88 54 01 46 FE \.:.s..T....T.F.
076A:0030 C9 75 EA FE CD 75 E0 CC-8B 46 FC 8B 56 FE 05 0C .u...u...F..U...
076A:0040 00 52 50 E8 EA 48 83 C4-04 50 E8 7B 0E 83 C4 04 .RP..H...P.¿....
076A:0050 3D FF FF 74 03 E9 ED 00-C4 5E FC 26 8A 47 0C 2A =..t.....^.&.G.*
076A:0060 E4 40 50 8B C3 8C C2 05-0C 00 52 50 E8 C1 48 83 .@P.....RP..H.
076A:0070 C4 04 50 8D 86 FA FE 50-E8 17 73 83 C4 06 8B B6 ..P....P..s.....
-s
```

PROGRAM:

DATA SEGMENT

STRING1 DW 1111H, 2222H, 3333H, 4444H, 5555H

MSG1 DB "FOUND\$"

MSG2 DB "NOT FOUND\$"

SE DW 5555H

DATA ENDS

PRINT MACRO MSG

MOV AH, 09H

LEA DX, MSG

INT 21H

INT 3

ENDM

CODE SEGMENT

ASSUME CS:CODE, DS:DATA

START:

MOV AX, DATA

MOV DS, AX

MOV AX, SE

LEA SI, STRING1

MOV CX, 05H

UP:

MOV BL,[SI]

MOV BH, [SI+1]

CMP AX, BX

JZ FO

INC SI

INC SI

DEC CX

JNZ UP

PRINT MSG2

JMP END1

FO:

PRINT MSG1

END1:

INT 3

CODE ENDS

END START

OUTPUT:

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Microsoft (R) Overlay Linker Version 3.60
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Run File [SORT1.EXE]:
List File [NUL.MAP]:
Libraries [.LIB]:
LINK : warning L4021: no stack segment

C:\>DEBUG SORT1.EXE
-G
AX=0736 BX=0012 CX=0000 DX=0012 SP=0000 BP=0000 SI=0004 DI=0000
DS=076A ES=075A SS=0769 CS=076B IP=0027  NU UP EI PL ZR NA PE NC
076B:0027 CC          INT      3
-D DS:0000
076A:0000  99 56 45 36 12 00 00 00-00 00 00 00 00 00 00 00  .UE6.....
076A:0010  B8 6A 07 8E D8 B5 04 B1-04 8D 36 00 00 8A 04 8A  .j.....6....
076A:0020  5C 01 3A C3 73 08 8A 54-01 86 14 88 54 01 46 FE  \...s..T....T.F.
076A:0030  C9 75 EA FE CD 75 E0 CC-8B 46 FC 8B 56 FE 05 0C  .u...u...F..U...
076A:0040  00 52 50 E8 EA 48 83 C4-04 50 E8 7B 0E 83 C4 04  .RP..H...P..f....
076A:0050  3D FF FF 74 03 E9 ED 00-C4 5E FC 26 8A 47 0C 2A  =..t.....^.&.G.*
076A:0060  E4 40 50 8B C3 8C C2 05-0C 00 52 50 E8 C1 48 83  .@P.....RP..H.
076A:0070  C4 04 50 8D 86 FA FE 50-E8 17 73 83 C4 06 8B B6  ..P....P..s.....
-s
```