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## 课后作业

**问题 7.9** 编程，将 `datasg` 段中每个单词的前四个字母改为大写字母：

代码：

```
assume cs:codesg,ds:datasg,ss:stacksg
stacksg segment
    dw 0,0,0,0,0,0,0,0
stacksg ends
datasg segment
    db '1. display.....'
    db '2. brows.....'
    db '3. replace.....'
    db '4. modify.....'
datasg ends
codesg segment
    start:  mov ax,stacksg    ;
            mov ss,ax        ;
            mov sp,10h       ;设置栈顶 ss:sp 为 stacksg:10h

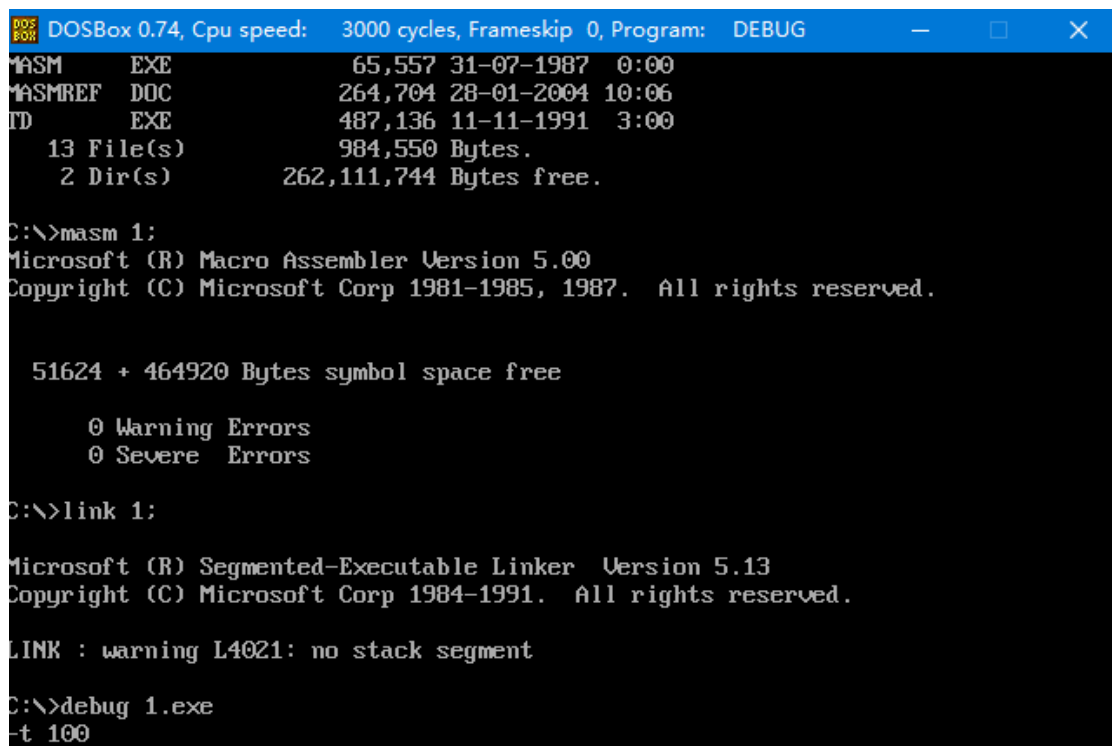
            mov ax,datasg
            mov ds,ax
            mov bx,0         ;数据段地址为 datasg
            mov cx,4

s0:  push cx                 ;外层循环的 cx 值保存到栈
            mov si,0
            mov cx,4         ;设置内层循环次数
s:   mov al,[bx+si+3]
            and al,11011111b
            mov [bx+si+3],al ;字母变大写
            inc si
            loop s           ;结束内层循环
            add bx,16
```

```
pop cx          ;出栈外层循环的次数
loop s0

mov ax,4c00H
int 21H

codesg ends
end start      ;代码段结束
运行代码
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
C:\>masm 1:
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

51624 + 464920 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>link 1:

Microsoft (R) Segmented-Executable Linker Version 5.13
Copyright (C) Microsoft Corp 1984-1991. All rights reserved.

LINK : warning L4021: no stack segment

C:\>debug 1.exe
-t 100
```

运行结果:

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
04B3:0028 59          POP     CX

AX=0449 BX=0040 CX=0001 DX=0000 SP=0010 BP=0000 SI=0004 DI=0000
DS=04AF ES=049E SS=04AE CS=04B3 IP=0029  NU UP DI PL NZ NA PO NC
04B3:0029 E2E8      LOOP    0013

AX=0449 BX=0040 CX=0000 DX=0000 SP=0010 BP=0000 SI=0004 DI=0000
DS=04AF ES=049E SS=04AE CS=04B3 IP=002B  NU UP DI PL NZ NA PO NC
04B3:002B B8004C     MOV     AX,4C00

AX=4C00 BX=0040 CX=0000 DX=0000 SP=0010 BP=0000 SI=0004 DI=0000
DS=04AF ES=049E SS=04AE CS=04B3 IP=002E  NU UP DI PL NZ NA PO NC
04B3:002E CD21      INT     21

Program terminated normally
-d ds:0
04AF:0000 31 2E 20 44 49 53 50 6C-61 79 2E 2E 2E 2E 2E 2E 1. DISPlay.....
04AF:0010 32 2E 20 42 52 4F 57 73-2E 2E 2E 2E 2E 2E 2E 2E 2. BROws.....
04AF:0020 33 2E 20 52 45 50 4C 61-63 65 2E 2E 2E 2E 2E 2E 3. REPLace.....
04AF:0030 34 2E 20 4D 4F 44 49 66-79 2E 2E 2E 2E 2E 2E 2E 4. MODIfy.....
04AF:0040 B8 AE 04 8E D0 BC 10 00-B8 AF 04 8E D8 BB 00 00 8...P<..8/..X:..
04AF:0050 B9 04 00 51 BE 00 00 B9-04 00 8A 40 03 24 DF 88 9..Q>..9...@.$_.
04AF:0060 40 03 46 E2 F5 83 C3 10-59 E2 E8 B8 00 4C CD 21 @.Fbu.C.Ybh8.LM!
04AF:0070 8D 76 AA 8B 46 12 E8 91-00 8C 46 B2 89 76 B0 8C .v*.F.h...F2.v0.

```

对比之前的结果：

```

db '1. display.....'
db '2. brows.....'
db '3. replace.....'
db '4. modify.....'

```

发现成功达到目的。