

南京林业大学



汇编语言上机实验

任务书

实验七 寻址方式在结构化数据访问中的应用

代码：

```
assume cs:codesg
```

```
data segment
```

```
    db '1975','1976','1977','1978','1979','1980','1981','1982','1983'  
    db '1984','1985','1986','1987','1988','1989','1990','1991','1992'  
    db '1993','1994','1995'  
    dd 16,22,382,1356,2390,8000,16000,24486,50065,97479  
    dd 140417,197514,345980,590827,803530,1183000,1843000  
    dd 2759000,3753000,4649000,5937000  
    dw 3,7,9,13,28,38,130,220,476,778,1001,1442,2258  
    dw 2793,4037,5635,8226,11542,14430,15257,17800
```

```
data ends
```

```
table segment
```

```
    db 21 dup('year summ ne ?? ')
```

```
table ends
```

```
codesg segment
```

```
start:
```

```
    mov     ax, data  
    mov     ds, ax  
    mov     ax, table  
    mov     es, ax  
    mov     bx, 0  
    mov     di, 21*4*2  
    mov     bp, 0  
    mov     cx, 21
```

```
s:
```

```
    mov     ax, [bx]  
    mov     es:[bp], ax  
    mov     ax, [bx+2]  
    mov     es:[bp+2], ax  
    mov     ax, [bx+21*4]  
    mov     es:[bp+5], ax  
    mov     dx, [bx+21*4+2]
```

```

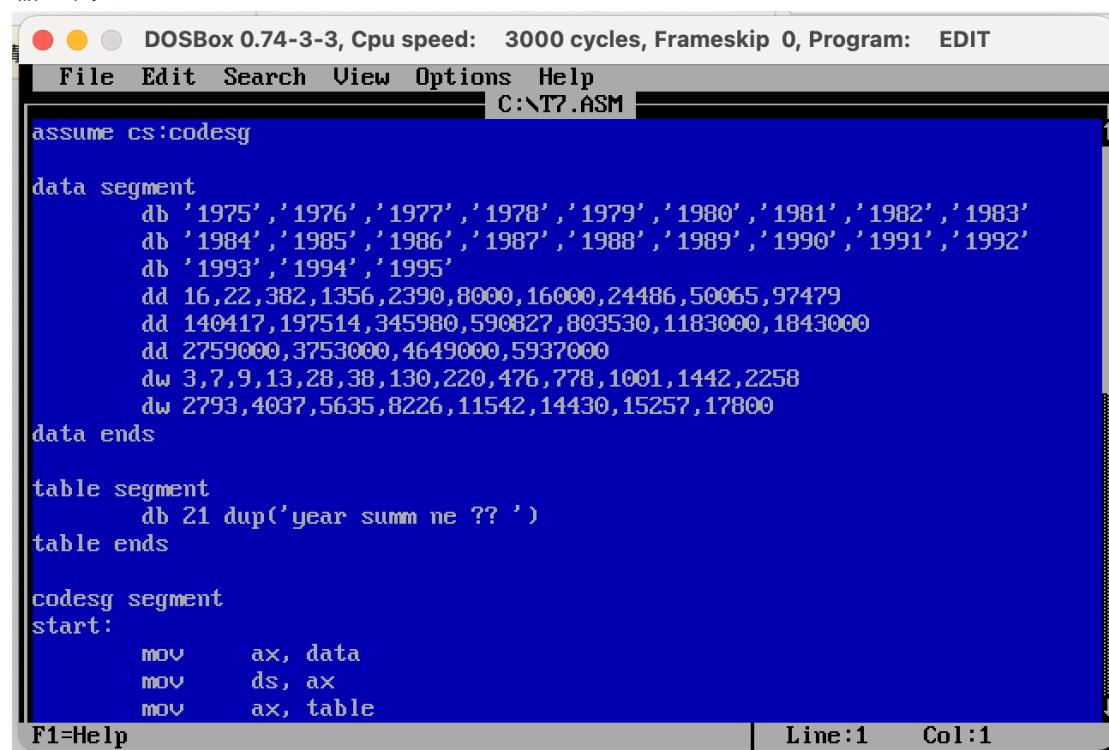
        mov      es:[bp+7], dx
        div      word ptr [di]
        mov      dx, [di]
        mov      es:[bp+0Ah], dx
        mov      es:[bp+0Dh], ax
        add      bx, 4
        add      di, 2
        add      bp, 16
        loop    s

        mov      ax, 4C00h
        int      21h

codesg ends
end start

```

输入代码:



The screenshot shows the DOSBox 0.74-3-3 window with the title bar "DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT". The menu bar includes File, Edit, Search, View, Options, and Help. The current file is "C:\NT7.ASM". The assembly code is as follows:

```

assume cs:codesg

data segment
    db '1975','1976','1977','1978','1979','1980','1981','1982','1983'
    db '1984','1985','1986','1987','1988','1989','1990','1991','1992'
    db '1993','1994','1995'
    dd 16,22,382,1356,2390,8000,16000,24486,50065,97479
    dd 140417,197514,345980,590827,803530,1183000,1843000
    dd 2759000,3753000,4649000,5937000
    dw 3,7,9,13,28,38,130,220,476,778,1001,1442,2258
    dw 2793,4037,5635,8226,11542,14430,15257,17800
data ends

table segment
    db 21 dup('year summ ne ?? ')
table ends

codesg segment
start:
    mov      ax, data
    mov      ds, ax
    mov      ax, table

```

The status bar at the bottom shows "F1=Help" on the left and "Line:1 Col:1" on the right.

DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

```

File Edit Search View Options Help
C:\T7.ASM

    mov    es, ax
    mov    bx, 0
    mov    di, 21*4*2
    mov    bp, 0
    mov    cx, 21

s:
    mov    ax, [bx]
    mov    es:[bp], ax
    mov    ax, [bx+2]
    mov    es:[bp+2], ax
    mov    ax, [bx+21*4]
    mov    es:[bp+5], ax
    mov    dx, [bx+21*4+2]
    mov    es:[bp+7], dx
    div   word ptr [di]
    mov    dx, [di]
    mov    es:[bp+0Ah], dx
    mov    es:[bp+0Dh], ax
    add   bx, 4
    add   di, 2
    add   bp, 16

F1=Help | Line:23 Col:1

loop s

    mov    ax, 4000h
    int   21h
codesg ends
end start

F1=Help | Line:30 Col:1

```

编译、链接:

DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX

```

C:\>masm t7
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

Object filename [t7.OBJ]:
Source listing [NUL.LST]:
Cross-reference [NUL.CRF]:

51576 + 464968 Bytes symbol space free

    0 Warning Errors
    0 Severe Errors

C:\>link t7

Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.

Run File [T7.EXE]:
List File [NUL.MAP]:
Libraries [.LIB]:
LINK : warning L4021: no stack segment

C:\>

```

运行:

```

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

C:\>debug t7.exe
-
-u
078D:0000 B86A07      MOV     AX,076A
078D:0003 8ED8        MOV     DS,AX
078D:0005 B87807      MOV     AX,0778
078D:0008 BEC0        MOV     ES,AX
078D:000A BB0000      MOV     BX,0000
078D:000D BFA800      MOV     DI,00A8
078D:0010 BD0000      MOV     BP,0000
078D:0013 B91500      MOV     CX,0015
078D:0016 8B07        MOV     AX,[BX]
078D:0018 26          ES:
078D:0019 894600      MOV     [BP+00],AX
078D:001C 8B4702      MOV     AX,[BX+02]
078D:001F 26          ES:
078D:0020 894602      MOV     [BP+02],AX
-g
Program terminated normally
-

```

查看运行结果:

```

● ○ ◻ DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
076A:00B0 1C 00 26 00 82 00 DC 00-DC 01 0A 03 E9 03 A2 05 ..&.....
076A:00C0 D2 08 E9 0A C5 0F 03 16-22 20 16 2D 5E 38 99 3B ....."^-^8.-
076A:00D0 88 45 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .E. .....
076A:00E0 31 39 37 35 20 10 00 00-00 20 03 00 20 05 00 20 1975 .....
076A:00F0 31 39 37 36 20 16 00 00-00 20 07 00 20 03 00 20 1976 .....
076A:0100 31 39 37 37 20 7E 01 00-00 20 09 00 20 2A 00 20 1977 ~...*.-
076A:0110 31 39 37 38 20 4C 05 00-00 20 0D 00 20 68 00 20 1978 L...h.-
076A:0120 31 39 37 39 20 56 09 00-00 20 1C 00 20 55 00 20 1979 U...U.-
076A:0130 31 39 38 30 20 40 1F 00-00 20 26 00 20 D2 00 20 1980 @...&..-
076A:0140 31 39 38 31 20 80 3E 00-00 20 82 00 20 7B 00 20 1981 .>...f.-
076A:0150 31 39 38 32 20 A6 5F 00-00 20 DC 00 20 6F 00 20 1982 _...o.-
076A:0160 31 39 38 33 20 91 C3 00-00 20 DC 01 20 69 00 20 1983 ....i.-
076A:0170 31 39 38 34 20 C7 7C 01-00 20 0A 03 20 7D 00 20 1984 .!...}.-
076A:0180 31 39 38 35 20 81 24 02-00 20 E9 03 20 8C 00 20 1985 .S.....
076A:0190 31 39 38 36 20 8A 03 03-00 20 A2 05 20 88 00 20 1986 .....
076A:01A0 31 39 38 37 20 7C 47 05-00 20 D2 08 20 99 00 20 1987 !G.....
076A:01B0 31 39 38 38 20 EB 03 09-00 20 E9 0A 20 D3 00 20 1988 .....
076A:01C0 31 39 38 39 20 CA 42 0C-00 20 C5 0F 20 C7 00 20 1989 .B.....
076A:01D0 31 39 39 30 20 18 0D 12-00 20 03 16 20 D1 00 20 1990 .....
076A:01E0 31 39 39 31 20 38 1F 1C-00 20 22 20 0E 00 20 1991 8...".-
076A:01F0 31 39 39 32 20 58 19 2A-00 20 16 2D 20 EF 00 20 1992 X.*.~-..
076A:0200 31 39 39 33 20 28 44 39-00 20 5E 38 20 04 01 20 1993 (D9. ^8 ..
076A:0210 31 39 39 34 20 28 F0 46-00 20 99 3B 20 30 01 20 1994 (.F. .; 0.
076A:0220 31
-
```