第 4 次上机

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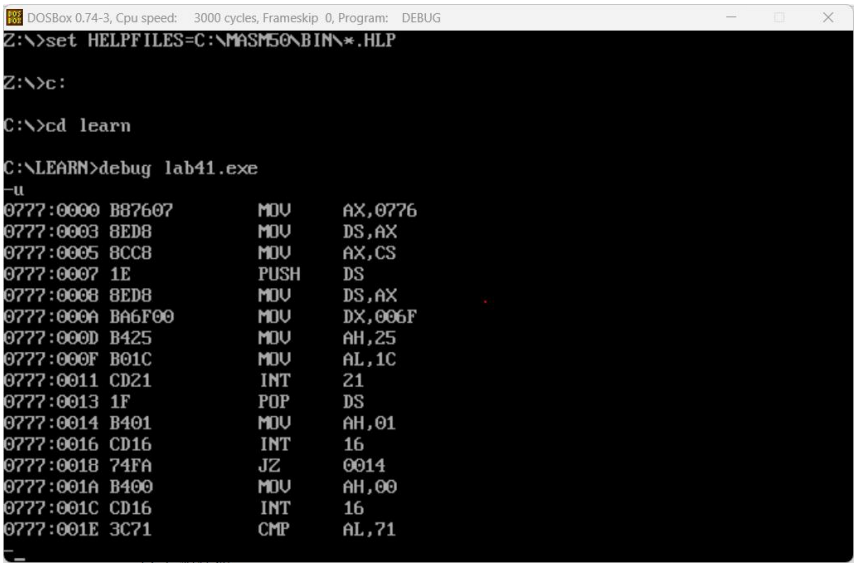
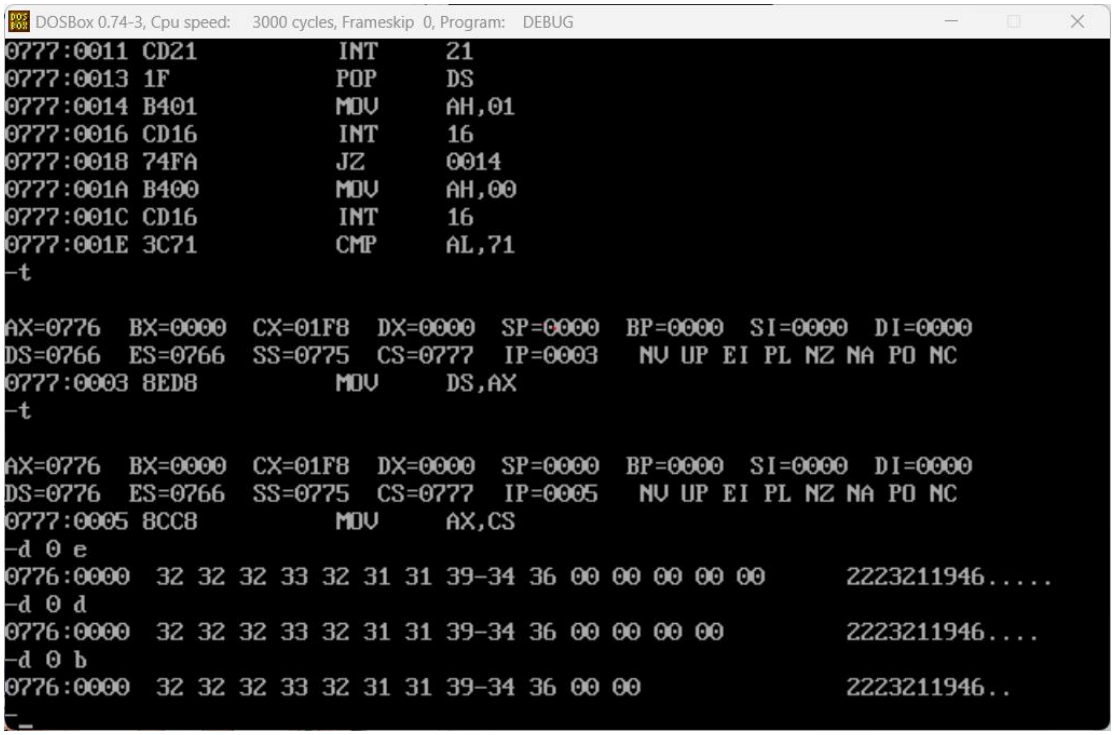
1、 中断程序设计

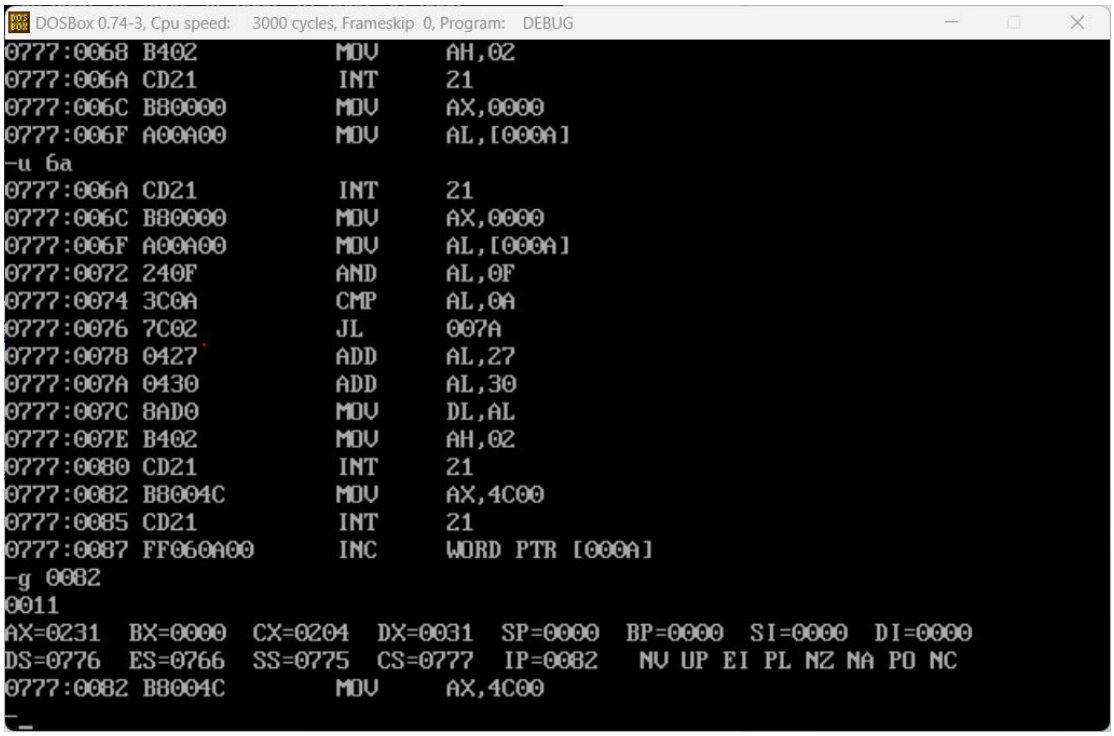
（1）反汇编的截图



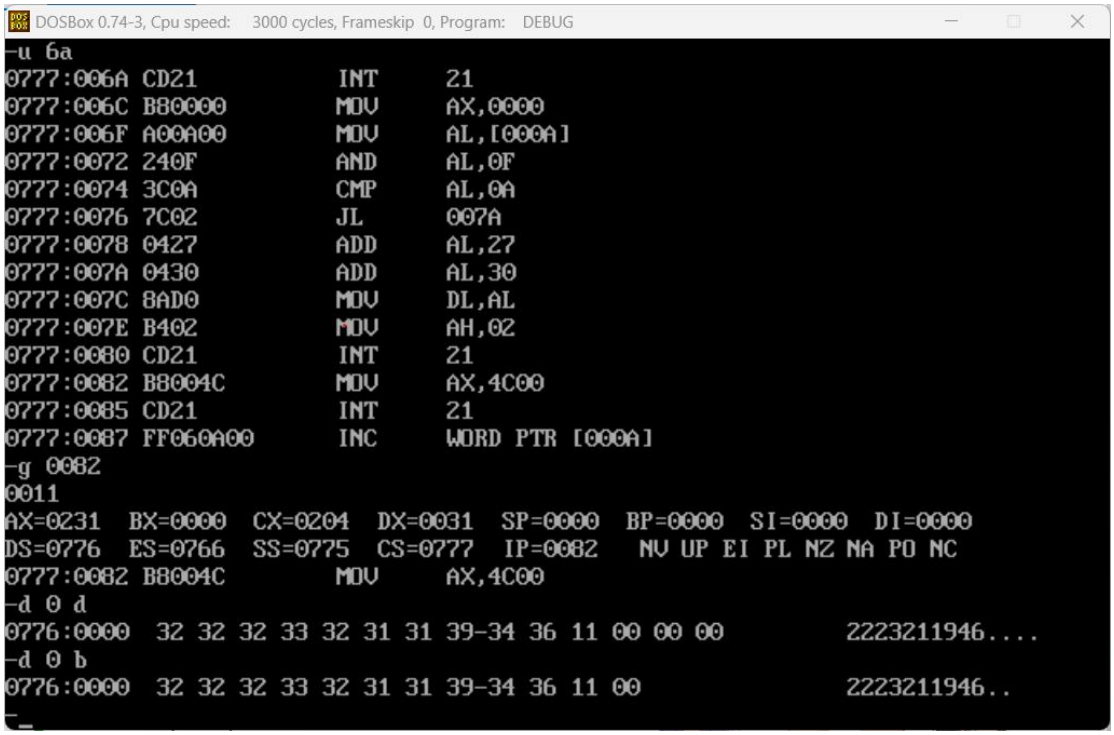
（2）在进行计算前，显示 ID、NUM 的内存值的截图（多显示、少显示均扣分）



（3）运行到返回 dos 前暂停，对屏幕显示的输出结果（NUM 值的对应的 ASCII 字符串）截图【结果要与步骤（4）中的内存值一致】



（4）在完成步骤（3）操作后，立即显示 ID、NUM 的内存值的截图（多显示、少显示均扣分）



（5）源代码

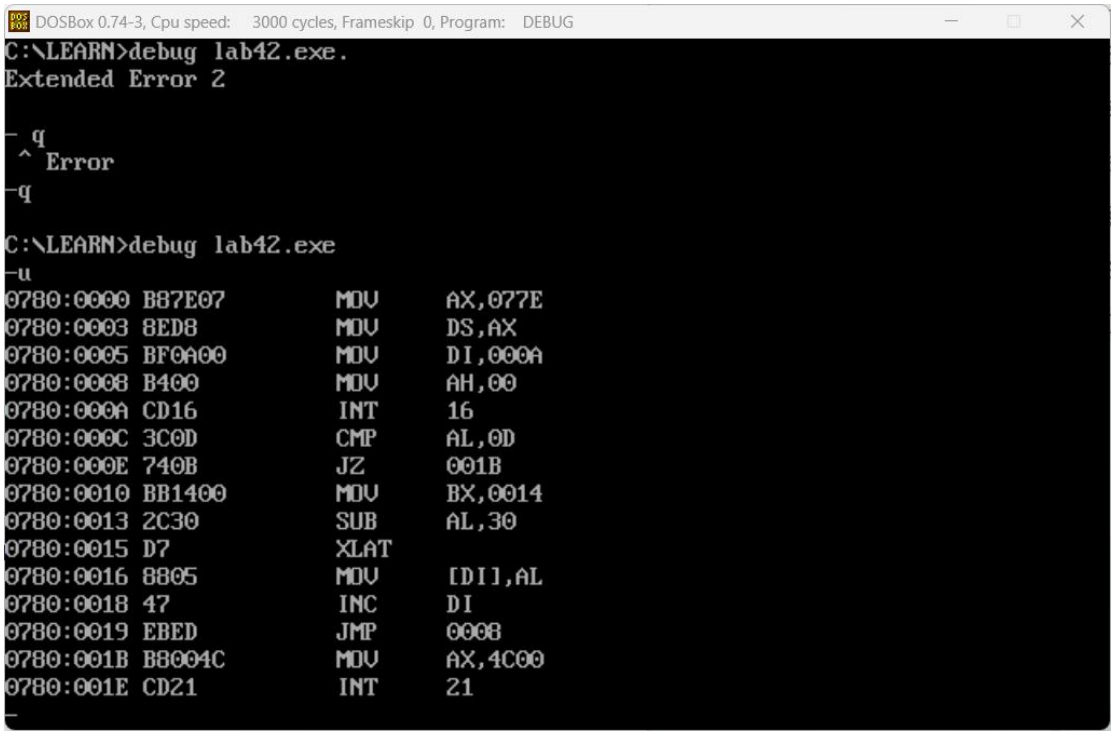
```
data segment
    id  db  '2223211946'
    num dd  0000h
data ends

code segment
assume ds:data,cs:code

start:  mov ax,data
        mov ds,ax

        mov ax,cs
        push ds
        mov ds,ax
        mov dx,offset int1c

        mov ah,25h
        mov al,1ch
        int 21h
        pop ds


        waitn:  mov ah,1
        int 16h
        jz waitn
```

```
        mov ah,0
        int 16h
        cmp al,'q'
        jne waitn

        mov cl,4
        mov ax,0
        mov al,byte ptr [num + 1]
        shr ax,cl
        and al,0Fh
        cmp al,0ah
        jl j1
        add al,27h
    j1: add al,30h
        mov dl,al
        mov ah,2
        int 21h

        mov ax,0
        mov al,byte ptr [num + 1]
        and al,0Fh
        cmp al,0ah
        jl j2
        add al,27h
    j2: add al,30h
        mov dl,al
        mov ah,2
        int 21h

        mov cl,4
        mov ax,0
        mov al,byte ptr [num]
        shr ax,cl
        and al,0Fh
        cmp al,0ah
        jl j3
        add al,27h
    j3: add al,30h
        mov dl,al
        mov ah,2
        int 21h

        mov ax,0
        mov al,byte ptr [num]
```

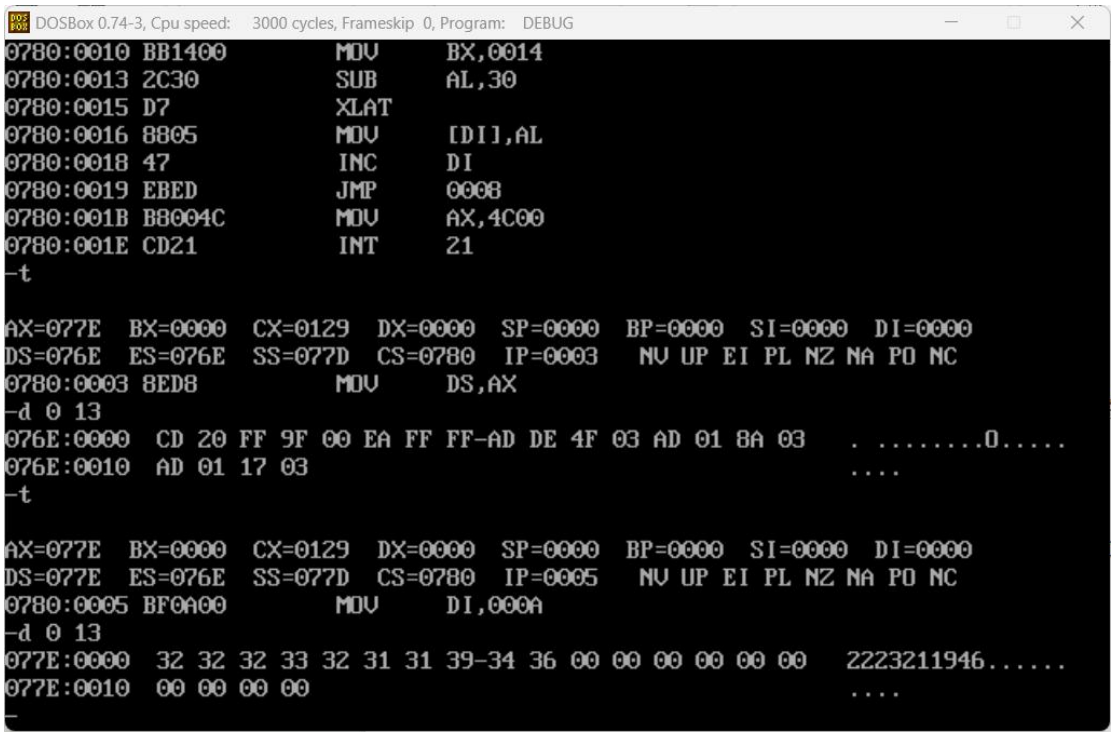
```
        and al,0Fh
        cmp al,0ah
        jl j4
        add al,27h
    j4: add al,30h
        mov dl,al
        mov ah,2
        int 21h


        mov ax,4c00h
        int 21h

int1c   proc    near
        inc word ptr [num]
        iret
int1c   endp

code ends
end start
```

3、 BIOS 和 DOS 中断

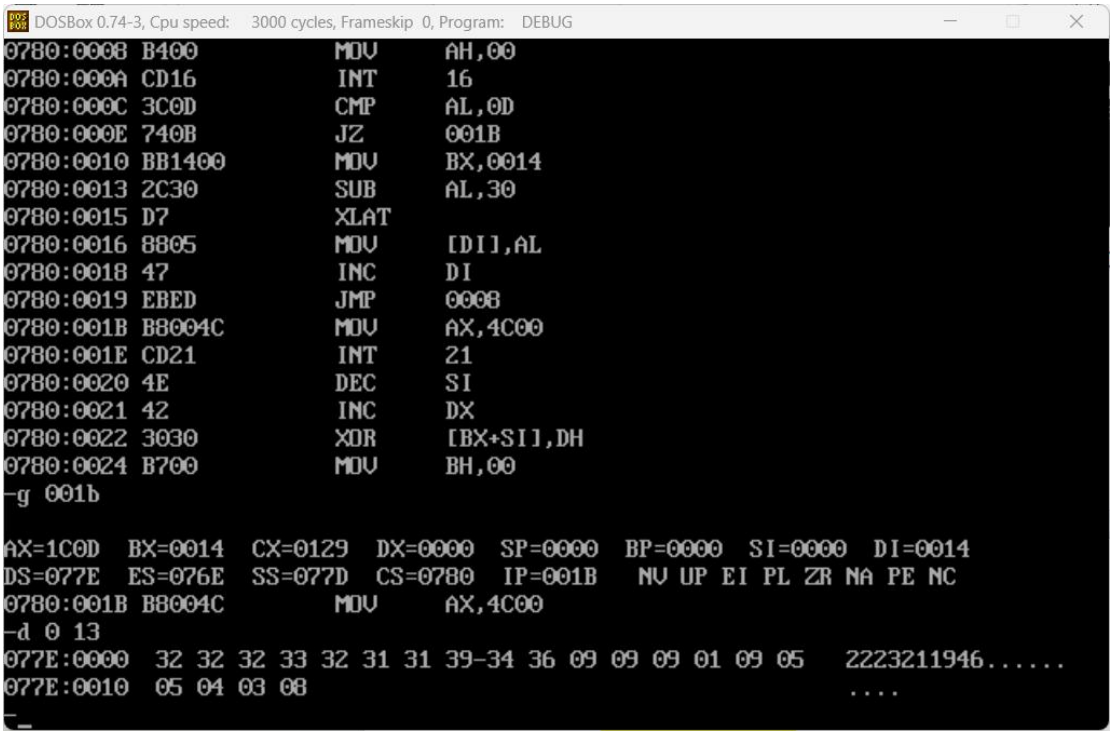
（1）反汇编的截图



（2）在进行计算前，显示 ID、BUFFER 的内存值的截图（多显示、少显示均扣分）



（3）输入回车后，显示 ID、BUFFER 的内存值的截图（多显示、少显示均扣分）



（4）源代码

```
1.        data segment
2.       id  db  '2223211946'
3.       buffer db  10 dup (?)
4.       lbel  db  7,5,9,1,3,6,8,0,2,4
5.   data ends
6.
7.   code segment
8.   assume ds:data,cs:code
9.
10.  start:  mov ax,data
11.          mov ds,ax
12.
13.          mov di,offset buffer
14.  lop:    mov ah,0
15.          int 16h
16.          cmp al,0dh
17.          je quit
18.          mov bx,offset lbel
19.          sub al,30h
20.          xlat
21.          mov [di],al
22.          inc di
23.          jmp lop
24.
25.
```

```
quit:   mov ax,4c00h
        int 21h
code ends
end start
```