```
; 8253芯片端口地址 (Port Address):
T0                      EQU     100H                    ; Timer0's port number in I/O space
T1                      EQU     102H                    ; Timer1's port number in I/O space
T2                      EQU     104H                    ; Timer2's port number in I/O space
CtrlPt                  EQU     106H                    ; 8253 Control Register's port number in I/O space
;
; 8255芯片端口地址 (Port Address):
PortA                   EQU     121H                    ; Port A's port number in I/O space
PortB                   EQU     123H                    ; Port B's port number in I/O space
PortC                   EQU     125H                    ; Port C's port number in I/O space
L8255CS                 EQU     127H                    ; 8255 Control Register's port number in I/O space
;
;  中断矢量号定义
IRQNum                  EQU     42                              ; 中断矢量号,要根据学号计算得到后更新此定义。

START:                                                  ; Modify the following codes accordingly
                                                        ;
                CLI                                     ; Disable interrupts
                MOV AX, @DATA                           ;
                MOV DS, AX                              ; Initialize DS

                CALL INIT8255                           ; Initialize 8255
                CALL INIT8253                           ; Initialize 8253

                MOV  BL, IRQNum                         ; BL is used as a parameter to call the procedure INT_INIT
                MOV BH,0H


                CALL INT_INIT                           ; Procedure INT_INIT is used to set up the IVT


                MOV AL,0FFH
                MOV DX,PortA
                OUT DX,AL

Display_Again:
                CALL DISPLAY8255                        ; Procedure DISPLAY8255 is used to contrl 7-segment tubes
```

```
;-------------------------------------------
INIT8253 PROC

; Set the mode and the initial count for Timer0
MOV DX,CtrlPt         ;给T0写控制字
MOV AL,00110110B
OUT DX,AL

MOV DX,T0           ;给T0写N(10000)
MOV AX,10000
OUT DX,AL
MOV AL,AH
OUT DX,AL

; Set the mode and the initial count for Timer1
MOV DX,CtrlPt         ;给T1写控制字
MOV AL,01010110B
OUT DX,AL

MOV DX,T1           ;给T1写N(100)
MOV AL,100
OUT DX,AL

; Set the mode and the initial count for Timer2


                RET
INIT8253 ENDP
```

```
;-------------------------------------------------------------
INT_INIT        PROC FAR                        ; The code is not complete and you should finalize the procedure
                CLI                             ; Disable interrupt
                MOV AX, 0
                MOV ES, AX                      ; To set up the interrupt vector table    ;
; Put your code here
; Hint: you can use the directives such as SEGMENT,OFFSET to get the segment value and the offset of a label

                MOV CL,2                ;BH为0  BL为中断号
                SHL BX,CL
                MOV CL,0
                MOV AX,OFFSET MYIRQ
                MOV WORD PTR ES:[BX],AX
                MOV AX,SEG MYIRQ
                MOV WORD PTR ES:[BX+2],AX
                STI
                MOV CX,1


               RET

                                                ; Do not to forget to return back from a procedure
INT_INIT        ENDP
```

```
MYIRQ   PROC FAR                            ; The code is not complete and you should finalize the procedure
; Put your code here
     CLI
        MOV DX,PortC              ;将PortC与DX绑定
        IN AL,DX                 ;读取PortC
        AND AL,00000001B         ;取出PC0
        MOV BL,AL           ;BL暂存PC0，其他位为0
        IN AL,DX            ;读取PC
        AND AL,00000010B    ;取出PC1
        MOV CL,AL           ;CL暂存PC1，其他位位0

        NOT CL               ;PC1取反
        AND CL,00000010B     ;仅保留PC1

         MOV AX,0
         OR AL,BL
         OR AL,CL    ;AL中低两位存着PC的低两位


        MOV CL,6
        SHL AL,CL
        OUT DX,AL

   STI



IRET
                                            ; Do not forget to return back from a ISR
MYIRQ   ENDP

        END
```