7.17

```
DATAS SEGMENT
    NUM DB 0
    NUMSTR DB 10 DUP(?)
    P DB 1   ;乘数
DATAS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS
START:
    MOV AX,DATAS
    MOV DS,AX
    CALL INPUT   ;输入数字
    CALL TOD     ;十进制处理
    MOV AH,4CH
    INT 21H

    INPUT PROC
      PUSH AX
      MOV SI,0
     LET0:
     ;先以字符串保存
      MOV AH,1
      INT 21H
      CMP AL,0DH
      JE LET1
      MOV NUMSTR[SI],AL
      INC SI
      JMP LET0
     LET1:
      POP AX
      RET
    INPUT ENDP

    TOD PROC
      PUSH AX
      DEC SI
     LET2:
      CMP SI,-1
```

```
        JE LET3
        ;逐位乘法相加
        MOV AL,NUMSTR[SI]
        SUB AL,30H
        MOV BL,P
        IMUL BL
        ADD NUM,AL
        MOV AL,P
        MOV BL,10
        MUL BL
        MOV P,AL
        DEC SI
        JMP LET2
      LET3:
        POP AX
        RET
    TOD ENDP

CODES ENDS
    END START
```

7.18

```
DATAS SEGMENT
    LIST DB 1,3,4,5,2,4,8
    SUM DB 0
DATAS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS
START:
    MOV AX,DATAS
    MOV DS,AX
    CALL GETSUM

    MOV AH,4CH
    INT 21H

    GETSUM PROC
      PUSH AX
      PUSH BX
      MOV SI,0
    LET0:
      CMP SI,SUM-LIST
      JE LET1
```

```
        MOV AL,LIST[SI]
        INC SI
        MOV BL,SUM
        ADD BL,AL
        MOV SUM,BL
        JMP LET0
       LET1:
        POP BX
        POP AX
        RET
    GETSUM ENDP
CODES ENDS
    END START
```

7.20

```
DATAS SEGMENT
   NUM DW 1110011011011101B
DATAS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS
START:
    MOV AX,DATAS
    MOV DS,AX
    MOV BX,NUM
    MOV CX,4            ;16位取4次
    BEG:
    CALL TOHEX          ;转16进制字符
    CALL DIS            ;输出
    LOOP BEG
    MOV AH,4CH
    INT 21H

     TOHEX PROC
      PUSH CX

        MOV CL,4
        ROL BX,CL       ;最高四位移到底部
        MOV AX,BX
        AND AL,0FH      ;取低四位
        ADD AL,30H
        CMP AL,3AH      ;16进制字符
        JL LET0
        ADD AL,7H
```

```
        LET0:
          POP CX
          RET
       TOHEX ENDP

       DIS PROC
          PUSH CX
          PUSH AX

          MOV DL,AL
          MOV AH,2
          INT 21H

          POP AX
          POP CX
          RET
       DIS ENDP
CODES ENDS
    END START
```

7.23

```
DATAS SEGMENT
    SIGN DB '+' ;正负标志
    NUM DB 10110111B
    RESULT DB 0
    P DB 1   ;位乘数
DATAS ENDS

STACKS SEGMENT
STACKS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS,SS:STACKS
START:
    MOV AX,DATAS
    MOV DS,AX
    CALL GETTRUEVALUE
    MOV AH,4CH
    INT 21H

    GETTRUEVALUE PROC
        MOV AL,NUM
        AND AL,AL
        JNS LET1
```

```
            MOV SIGN,'-'
            SUB AL,1
            XOR AL,0FFH
            MOV NUM,AL
            LET1:
            CMP NUM,0
            JE LETE
            MOV AH,0
            MOV BL,10
            MOV AL,NUM
            IDIV BL          ;除10运算
            MOV NUM,AL     ;商
            MOV AL,AH      ;余数
            MOV BL,P
            IMUL BL
            ADD RESULT,AL ;余数按位乘运算后并入RESULT
            MOV AL,BL
            MOV BH,10
            IMUL BH
            MOV P,AL        ;P = P * 10
            JMP LET1
            LETE:
            RET
    GETTRUEVALUE ENDP
CODES ENDS
    END START
```

7.29

```
DATAS SEGMENT
    LIST DW 12,2545,22334,3211,4432,546
    MAX DW 0
DATAS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS
START:
    MOV AX,DATAS
    MOV DS,AX
    MOV AX,MAX-LIST
    MOV BL,2
    IDIV BL
    MOV AH,0
    MOV CX,AX
    MOV SI,0
```

```
    GETMAX:
    CALL COMPARE
    LOOP GETMAX

    MOV AH,4CH
    INT 21H

    COMPARE PROC
      MOV AX,LIST[SI]
      CMP AX,MAX
      JLE LET0
      MOV MAX,AX
      LET0:
       ADD SI,2
       RET
    COMPARE ENDP
CODES ENDS
    END START
```

7.30

```
DATAS SEGMENT
    LIST1 DB -1,-2,-3,-4,-5
    LIST2 DB -2,-4,-6,-8,-10
    SUM1 DB 0
    SUM2 DB 0
DATAS ENDS

STACKS SEGMENT
STACKS ENDS

CODES SEGMENT
    ASSUME CS:CODES,DS:DATAS,SS:STACKS
START:
    MOV AX,DATAS
    MOV DS,AX

    MOV SI,LIST2-LIST1
    LEA DI,LIST1
    CALL GETSUM
    MOV SUM1,AH

    MOV SI,SUM1-LIST2
    LEA DI,LIST2
    CALL GETSUM
```

```
    MOV SUM2,AH

    MOV AH,4CH
    INT 21H

    GETSUM PROC
      MOV AH,0
      DEC SI
     LET0:
      CMP SI,-1
      JZ LETE
      MOV AL,[DI]
      ADD AH,AL
      INC DI
      DEC SI
      JMP LET0
     LETE:
      RET
    GETSUM ENDP
CODES ENDS
    END START
```