计科180235 孔天欣 20188068 -第 7 章-

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