.MODEL SMALL

.386

.DATA

ARRAY DB 99 DUP(?)

LEN DB ?

FLAG DB 0

MSG1 db 10,13,"Enter length of Array (2 digits) : $"

MSG2 db 10,13,"Enter elements of Array (max 2 digit elements) : $"

MSG3 db 10,13,"Enter element $"

MSG4 db 10,13,"The sorted array is : $"

.CODE

.STARTUP

;TAKING LENGTH OF ARRAY

MOV DX,OFFSET MSG1

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV BX,0

MOV CX,2

L1 : SHL BX,4

MOV AH,01

INT 21H

CMP AL,39H

JBE L2

SUB AL,7

L2 : SUB AL,30H

ADD BL,AL

LOOP L1

MOV LEN,BL

MOV DL,10

MOV AH,02

INT 21H

MOV DX,OFFSET MSG2

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

;TAKING ARRAY

MOV DI,OFFSET ARRAY

MOV CX,0

MOV CL,LEN

LI1 :

MOV DX,OFFSET MSG3

MOV AH,09

INT 21H

MOV DL,LEN

ADD DL,1

SUB DL,CL

ADD DL,30H

MOV AH,02

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV AH,01

INT 21H

MOV BX,0

CMP AL,39H

JBE LI1X

SUB AL,7H

LI1X:

SUB AL,30H

ADD BL,AL

SHL BL,4

MOV AH,01

INT 21H

CMP AL,39H

JBE LI1Y

SUB AL,7H

LI1Y:

SUB AL,30H

ADD BL,AL

MOV [DI],BL

INC DI

MOV DL,10

MOV AH,02

INT 21H

LOOP LI1

MOV DL,10

MOV AH,02

INT 21H

;SORTING ARRAY

MOV AL,A1

CMP AL,1

JBE CONT

SORT :

MOV SI,OFFSET ARRAY

MOV FLAG,0

MOV CX,0

MOV CL,LEN

SUB CL,1

CC :

MOV BL,[SI]

MOV AL,[SI+1]

CMP BL,AL

JBE LX

MOV [SI],AL

MOV [SI+1],BL

MOV FLAG,1

LX :

INC SI

LOOP CC

CMP FLAG,0

JA SORT

CONT :

;PRINTING SORTED ARRAY

MOV DX,OFFSET MSG4

MOV AH,09

INT 21H

MOV SI,OFFSET ARRAY

MOV BX,0

MOV CL,LEN

P:

MOV BL,[SI]

SHR BL,4

CMP BL,9H

JBE LP1

ADD BL,7H

LP1 :

ADD BL,30H

MOV DL,BL

MOV AH,02

INT 21H

MOV BL,[SI]

AND BL,0FH

CMP BL,9H

JBE LP2

ADD BL,7H

LP2 :

ADD BL,30H

MOV DL,BL

MOV AH,02

INT 21H

MOV DL,','

MOV AH,02

INT 21H

MOV DL,' '

MOV AH,02

INT 21H

INC SI

LOOP P

MOV DL,10

MOV AH,02

INT 21H

.EXIT

END