**את"מ מעבדה 5:  
  
מגישים:  
 אורי מלכא- 314862996   
אלן ציפין- 313206062  
  
תרגיל 1:**השלם בטבלה (ערכים דצימלים והקסאדצימלים) עפ"י הדוגמא:

|  |  |  |  |
| --- | --- | --- | --- |
| ערך כמספר מסומן | ערך כחסר סימן | הקסאדצימלי | מספר בינארי |
| 1- | 65535 | FFFF | 1111111111111111 |
| 32753- | 32783 | 800F | 1000000000001111 |
| 32767 | 32767 | 7FFF | 0111111111111111 |
| 21845 | 21845 | 5555 | 0101010101010101 |
| -7254 | 58282 | E3AA | 1110001110101010 |

**תרגיל 2:**

;

;

.MODEL SMALL

.STACK 100h

.DATA

;Var

N DW 11

ARR DW 8234h, 8678h, 0ff11h, 8111h, 8222h, 8333h, 8444h, 8555h, 8666h, 8777h, 8888h

T DW 10

MSigned DW ?

MUnsigned DW ?

;Strings

DisplayUnSigned DB 13,10, 'Max for Unsigned Array is:XXXXX',13,10, '$' ;28

DisplaySigned DB 13,10,'Max for Signed Array is: XXXXX',13,10, '$' ;26

.CODE

ProgStart:

MOV AX,@DATA

MOV DS,AX ; Set DS to point to data segment

;Algorithm to find MAXUNSIGNED

;DI, pointer to the array.

MOV DI,OFFSET ARR

MOV CX, N

DEC CX

MOV AX,[DI] ;We assume that the first element in the array is the greatest. MAX=AX

ADD DI,2

MaxUnsigned:

CMP AX,[DI] ;JUMP IF AX>[DI]

JA SkipSwap ;JUMP IF AX>[DI]

;SWAP

MOV AX,[DI]

SkipSwap:

ADD DI,2

LOOP Maxunsigned ;Loop for N-1 iterations

;Algorithm to find MAXSIGNED

;DI, pointer to the array.

MOV DI,OFFSET ARR

MOV CX, N

DEC CX

MOV DX,[DI] ;We assume that the first element in the array is the greatest. MAX=AX

ADD DI,2

Maxsigned:

CMP DX,[DI] ;JUMP IF AX>[DI]

JG SkipSwapSigned

;SWAP

MOV DX,[DI]

SkipSwapSigned:

ADD DI,2

LOOP Maxsigned ;Loop for N-1 iterations

;EXTRACTING MaxUnsigned to 5 diffrent numbers AX IS NOT GREATER THEN 99,999 |

MOV MUnsigned,AX;

MOV MSigned,DX;

;~~~~~~~~~~~~~~~~~~~For Unsigned~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

MOV AX,Munsigned

MOV DX,0

DIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplayUnsigned[32],DL

MOV DX,0

DIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplayUnsigned[31],DL

MOV DX,0

DIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplayUnsigned[30],DL

MOV DX,0

DIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplayUnsigned[29],DL

MOV DX,0

DIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplayUnsigned[28],DL

MOV AX,MSigned

;~~~~For POSITIVE/Negative signed~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

MOV AX,MSigned

CMP AX,0

JG Skip

NEG AX

MOV DisplaySigned[26],'-'

Skip:

MOV DX,0

IDIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplaySigned[31],DL

MOV DX,0

IDIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplaySigned[30],DL

MOV DX,0

IDIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplaySigned[29],DL

MOV DX,0

IDIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplaySigned[28],DL

MOV DX,0

IDIV T ; AX=DX:AX/10 , DX=DX:AX%10;

MOV DH,0

ADD DL,'0'

MOV DisplaySigned[27],DL

;to print the display strings

MOV AH,9

MOV DX,OFFSET DisplayUnSigned

INT 21h

MOV AH,9

MOV DX,OFFSET DisplaySigned

INT 21h

ToEnd:

MOV AH,4Ch ; Set terminate option for int 21h

INT 21h ; Return to DOS (terminate program)

;

END ProgStart ; Set "ProgStart:" as first executable statement

פלטים תרגיל 2:  
  
  
  
