

Program: To Sort a User defined Array

Code:

data segment

msg0 db 0dh,0ah,"NIYATI EXP 4 \$"

msg1 db 10,13,"Array Limit is 10: \$"

msg2 db 10,13,"Enter Number: \$"

msg3 db 10,13,"THE SORTED ARRAY IS: \$"

msg4 db 10,13,"\$"

count db ?

temp db ?

data ends

code segment

assume ds:data,cs:code

start:

mov ax,data

mov ds,ax

LEA dx,msg0

mov ah,09h

int 21h

LEA dx,msg1

mov ah,09h

int 21h

mov SI,4000h

mov cx,10

label1:

LEA dx,msg2

mov ah,09h

int 21h

mov ah,01h

int 21h

call input

rol al,04h

mov bl,al

mov ah,01h

int 21h

call input

mov ah,00h

add bl,al

mov [SI],bl

inc SI

LEA dx,msg4

mov ah,09h

int 21h

loop label1

mov cx,9

mov bx,0000h

label2:

mov SI,4000h

mov bl,[SI]

inc SI

```
mov bh,9
```

```
label3:
```

```
    dec bh
```

```
    cmp bl,[SI]
```

```
    jc label4
```

```
    mov dl,bl      ;current element >= next element (swapping required)
```

```
    mov bl,[SI]
```

```
    dec SI
```

```
    mov [SI],bl
```

```
    inc SI
```

```
    mov [SI],dl
```

```
label4:      ;current element < next element(no swapping required)
```

```
    mov bl,[SI]
```

```
    inc SI
```

```
    cmp bh,00h
```

```
    jnz label3
```

```
loop label2
```

```
mov SI,4000h
```

```
mov cx,10
```

```
LEA dx,msg3
```

```
mov ah,09h
```

```
int 21h
```

```
d:
```

```
    LEA dx,msg4
```

```
mov ah,09h
```

```
int 21h
```

```
mov bl,00h
```

```
mov bl,[SI]
```

```
and bl,0f0h
```

```
ror bl,04h
```

```
call output
```

```
mov bl,[SI]
```

```
and bl,0fh
```

```
call output
```

```
inc SI
```

```
loop d
```

```
mov ah,4ch
```

```
int 21h
```

```
input proc
```

```
cmp al,41h
```

```
jc label6
```

```
sub al,07h
```

```
label6:
```

```
sub al,30h
```

```
ret
```

```
endp
```

```
output proc
```

```
cmp bl,0ah
```

```
jc label7
```

```
add bl,07h
```

label7:

add bl,30h

mov dl,bl

mov ah,02h

int 21h

ret

endp

code ends

end start

OUTPUT:

```
C:\TASM>exp5.exe

NIYATI EXP 4
Array Limit is 10:
Enter Number: 99

Enter Number: 77

Enter Number: 55

Enter Number: 33

Enter Number: 11

Enter Number:

Enter Number: 11

Enter Number: 88

Enter Number: 66

Enter Number: 44

Enter Number: 22

Enter Number: 19

THE SORTED ARRAY IS:
11
19
22
33
44
55
66
77
88
99
C:\TASM>_
```