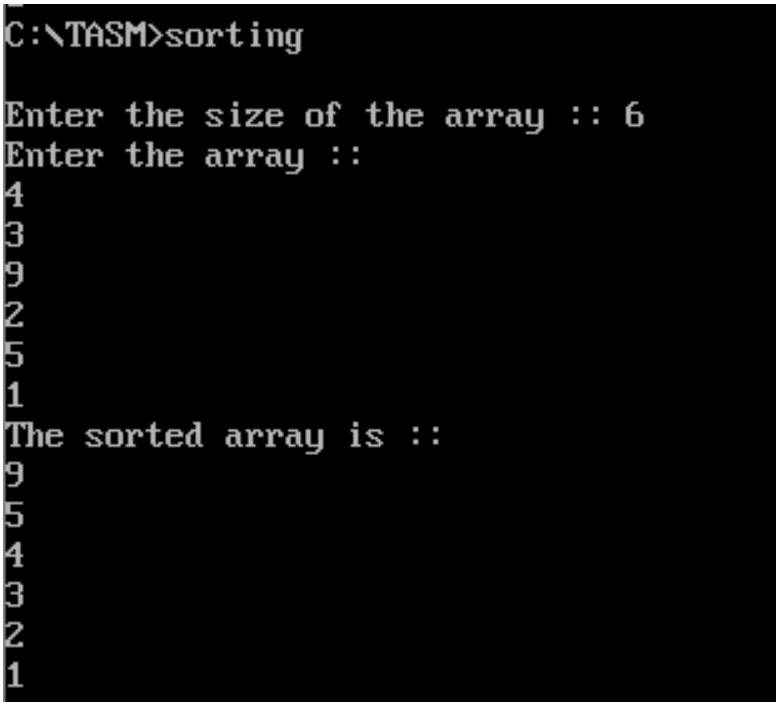
MICROPROCESSORS PRACTICAL - 3

SORTING

```
.model small
.386
.data
        ARRAY DW 20 DUP (?)
        DATA1 dw 0000H
        NUMB DW 0000H
        msg db 10,13,"Enter the size of the array :: $"
        msg2 db 10,13,"Enter the array :: $"
        msg3 db 10,13,"The sorted array is :: $"
.code
.startup

        MOV AH,09
        MOV DX,OFFSET msg
        INT 21H

        MOV AH,01
        INT 21H

        SUB AL,30H
        MOV AH,0

        MOV CX,AX
        MOV DATA1,AX

        MOV AH,09
        MOV DX,OFFSET msg2
        INT 21H

        MOV AH,0
        MOV SI, 0
        MOV BX, OFFSET ARRAY

        L1: MOV DL, 0AH ; jump onto next line
           MOV AH, 02H
           INT 21H

         MOV DX, SI ; input element of the array

           MOV AH, 01H
           INT 21H

           SUB AL,30H
           MOV SI, DX
           MOV [BX + SI], AX
           INC SI
```

```
    LOOP L1

    MOV CX, DATA1
    MOV BX, OFFSET ARRAY
    MOV DI,CX

    L2: MOV CX, DATA1
      MOV NUMB, CX     ; Change1
      DEC NUMB         ; Change2
      MOV CX, NUMB     ; change3

      MOV SI, 0

      L3: MOV AL, [BX + SI]
          CMP AL, [BX + SI + 1]
          JG L4
          XCHG AL,[BX + SI + 1]
          MOV [BX + SI],AL
          L4: INC SI

      LOOP L3

      DEC DI
      JNZ L2

      MOV CX, DATA1
      MOV SI, 0
      MOV BX, OFFSET ARRAY
      MOV AH,09

      MOV DX,OFFSET msg3
      INT 21H

    L5: MOV DL, 0AH ; jump onto next line
      MOV AH, 02H
      INT 21H

      MOV DX, [BX + SI]
      INC SI
      ADD DL, 30H
      MOV AH, 02
      INT 21H

    LOOP L5

.EXIT
 END
```

OUTPUT


C:\TASM>sorting
Enter the size of the array :: 6
Enter the array ::
4
3
9
2
5
1
The sorted array is ::
9
5
4
3
2
1