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| **EXPERIMENT NO. 9** | |
| **Title** | **8086 Assembly Language Program to Arrange the Numbers in Ascending Order .** |
| **Name** | **Deep Salunkhe** |
| **Roll No** | **21102A0014** |
| **Outcome** | **CO2** |
| **Code** | .**model small**  **.stack 100H**  **.data**  **arr db 4H,3H,7H,2H,5H,1H,8H,6H**  **len db $-arr**  **.code**  START: MOV AX, @DATA MOV DS,AX  MOV CH, 07H  NEXTPASS: MOV CL, CH  LEA SI, arr  NEXTCMP: MOV AL, [SI] MOV BL, [SI+1] CMP AL, BL  JC NOSWAP MOV DL , [SI+1] XCHG [SI], DL MOV[SI+1],DL  NOSWAP: INC SI  DEC CL  JNZ NEXTCMP  DEC CH  JNZ NEXTPASS  MOV AH,4CH  INT 21H  **END start**  END |

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| **Output** | |  | |
| **Conclusion** | | **To find the smallest number in given string ,we can make use of CMP instruction which will compare the number of one memory location copied in AX with the number of other memory location.**  **If the result of comparison does not generate carry, then the number stored In second memory location is smaller than the number in first memory location which is copied in AX. But ,as our area of interest is the smallest number stored in second memory location; we will copy it to AX and then further cycle of compare is on process will be continued till counter becomes zero.**  **Then at the end, the Number in AX is the smallest number among all the string elements.** | |
| **EXPERIMENT NO. 10** | | | |
| **Title** | | **8086 Assembly Language Program to check if user entered string is palindrome or not** | |
| **Name** | | **Deep Salunkhe** | |
| **Roll No** | | **21102A0014** | |
| **Outcome** | | **CO2** | |
| **Code** | | . .model small  .stack 100h  .data  Arr db 9 dup(00h)  msg db 'enter string$'  msg1 db 'string is palindrome$'  msg2 db 'string is not palindrome$'  ends  .code  start: mov ax,@data  mov ds,ax  mov es,ax  mov cx,0005h  mov bx,0000h  to\_read\_str:lea dx,  msg mov ah,09h  int 21h  nxt\_chr:mov ah,01h  int 21h  mov [bx],al  inc bx  loop nxt\_chr  dec cx  mov si,0000h  mov di,bx  mov cx,0002h  CLD  nxt\_cmp:cmpsb  jne ahead  dec di  loop nxt\_cmp  lea dx,msg1  mov ah,09h  int 21h  mov ah,01h  int 21h  jmp stop  ahead: lea dx,msg2  mov ah,09h  int 21h  stop: mov ah,4ch  int 21h  end start  end | |

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| **Output** |  |
| **Conclusion** | Palindrome check for a given string in 8086 Assembly language. The program prompts the user for a string and checks whether the given string is a palindrome and displays the appropriate message. |