

S.No: 4

Exp. Name: **Program to sort a list of elements using selection sort**

Date:

**Aim:**

Program to sort a list of elements using Selection sort.

**Source Code:**

selection.c

```

#include<stdio.h>
int SelectionSort(int arr[], int n)
{
    if(n<=1)
    {
        return 0;
    }
    for(int count =0; count<n-1;count++)
    {
        int min = count;
        for(int j=count+1;j<n;j++)
        {
            if(arr[j]<arr[min])
            {
                min = j;
            }
        }
        int temp = arr[min];
        arr[min]=arr[count];
        arr[count]=temp;
    }
    void Display(int arr[], int n)
    {
        for(int i=0;i<n;i++)
        {
            printf("%d\t",arr[i]);
        }
    }

    int main()
    {
        int i,j,temp,count,n,arr[100];
        printf("Enter size of the array : ");
        scanf("%d",&n);   printf("Enter the elements :");
        for(int i=0;i<n;i++)
        {
            scanf("%d",&arr[i]);
        }
        SelectionSort(arr,n);
        printf("The sorted elements are : ");
        Display(arr,n);
        return 0;
    }

```

**Execution Results** - All test cases have succeeded!

Test Case - 1
<b>User Output</b>
Enter size of the array : 3

Test Case - 1	
Enter the elements : 6	
2	2
4	4
The sorted elements are : 2      4      6	

Test Case - 2	
User Output	
Enter size of the array : 4	
Enter the elements : 90	
87	87
95	95
92	92
The sorted elements are : 87      90      92      95	