

EXP — 8

Program Code —

```
/******  
Implementation of Selection Sort  
*****/  
#include <stdio.h>  
#include <stdlib.h>  
  
int smallest(int arr[], int k, int n);  
  
void selection_sort(int arr[], int n);  
void main(int argc, char *argv[])  
{  
    int arr[10], i, n;  
    printf("\n Enter the number of elements in the array: ");  
    scanf("%d", &n);  
    printf("\n Enter the elements of the array: ");  
    for(i=0;i<n;i++) { scanf("%d", &arr[i]); }  
    selection_sort(arr, n);  
    printf("\n The sorted array is: \n");  
    for(i=0;i<n;i++) printf(" %d\t", arr[i]);  
}  
int smallest(int arr[], int k, int n)  
{ int pos = k, small=arr[k], i;  
  for(i=k+1;i<n;i++)  
  {  
    if(arr[i]< small)  
    { small = arr[i]; pos = i; }  
  }  
  return pos;  
}  
void selection_sort(int arr[],int n)  
{  
    int k,  
    pos,  
    temp;  
    for(k=0;k<n;k++)  
    {  
        pos = smallest(arr, k, n);  
        temp = arr[k];  
        arr[k] = arr[pos];  
        arr[pos] = temp;  
    }  
}
```

```
}  
}
```

Output 

```
itadmin@itadmin-HP-ProDesk-400-G7-Microtower-PC:~/Desktop$ gcc EXP_8.c  
itadmin@itadmin-HP-ProDesk-400-G7-Microtower-PC:~/Desktop$ ./a.out  
  
Enter the number of elements in the array: 7  
  
Enter the elements of the array: 23  
34  
56  
78  
21  
97  
81  
  
The sorted array is:  
itadmin@itadmin-HP-ProDesk-400-G7-Microtower-PC:~/Desktop$
```