

DSA EXP NO. 08

MEET PATEL

ROLL NO. 43 (SY-IT , BATCH S2)

CODE :

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  int smallest(int arr[], int k, int n);
5  void selection_sort(int arr[], int n);
6
7  void main(int argc, char *argv[]) {
8
9      int arr[10], i, n;
10     printf("\n Enter the number of elements in the array: ");
11     scanf("%d", &n);
12
13     for(i=0;i<n;i++) {
14         printf("\n Enter the element no. %d of the array: ",i+1);
15         scanf("%d", &arr[i]);
16     }
17
18     selection_sort(arr, n);
19     printf("\n The sorted array is: \n");
20
21     for(i=0;i<n;i++) {
22         printf(" %d\t", arr[i]);
23     }
24 }
25
26 int smallest(int arr[], int k, int n) {
27
28     int pos = k, small=arr[k], i;
29     for(i=k+1;i<n;i++)
30     {
31         if(arr[i]< small) {
32             small = arr[i];
33             pos = i;
34         }
35     }
36     return pos;
37 }
38
39 void selection_sort(int arr[],int n) {
40     int k,pos,temp;
41
42     for(k=0;k<n;k++) {
43         pos = smallest(arr, k, n);
44         temp = arr[k];
45         arr[k] = arr[pos];
46         arr[pos] = temp;
47     }
48 }
```

OUTPUT:

Output

/tmp/ggM5GRic4P.o

Enter the number of elements in the array: 6

Enter the element no. 1 of the array: 34

1Enter the element no. 2 of the array: 2

Enter the element no. 3 of the array: 67

Enter the element no. 4 of the array: 7

Enter the element no. 5 of the array: 54

Enter the element no. 6 of the array: 0

The sorted array is:

0 2 7 34 54 67 |