

# Expt no 8

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syit 22

```
4 #include <stdio.h>
5 #include <stdlib.h>
6
7
8 int smallest(int arr[], int k, int n);
9
10 void selection_sort(int arr[], int n);
11 void main(int argc, char *argv[])
12 {
13     int arr[10], i, n;
14     printf("\n Enter the number of elements in the array: ");
15     scanf("%d", &n);
16     printf("\n Enter the elements of the array: ");
17     for(i=0;i<n;i++) { scanf("%d", &arr[i]); }
18     selection_sort(arr, n);
19     printf("\n The sorted array is: \n");
20     for(i=0;i<n;i++) printf(" %d\t", arr[i]);
21 }
22 int smallest(int arr[], int k, int n)
23 { int pos = k, small=arr[k], i;
24   for(i=k+1;i<n;i++)
25   {
26     if(arr[i]< small)
27     { small = arr[i]; pos = i; }
28   }
29   return pos;
30 }
31 void selection_sort(int arr[],int n)
32 {
33     int k,
34     pos,
35     temp;
36     for(k=0;k<n;k++)
37     {
38         pos = smallest(arr, k, n);
39         temp = arr[k];
40         arr[k] = arr[pos];
41         arr[pos] = temp;
42     }
43 }
44
45
46
```

compilation successful

```
itl4@itadmin:~$ gcc dsaprad8.c
```

```
itl4@itadmin:~$ ./a.out
```

```
Enter the number of elements in the array: 4
```

```
Enter the elements of the array: 2 5 1 9
```

```
The sorted array is:
```

```
1      2      5      9      itl4@itadmin:~$
```

```
itl4@itadmin:~$ ./a.out
```

```
Enter the number of elements in the array: 5
```

```
Enter the elements of the array: 34 22 11 45 32
```

```
The sorted array is:
```

```
11      22      32      34      45      itl4@itadmin:~$
```