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**Experiment no: 8**

**Code:**

```
#include <stdio.h>

#include <stdlib.h>

#include <conio.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:**

```
Enter the number of elements in the array: 4  
  
Enter the elements of the array: 1  
3  
5  
7  
  
The sorted array is:  
1      3      5      7
```