

Exp 8

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Sy-it 57

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;
    }
}
```

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main.c

Run

Clear

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int smallest(int arr[], int k, int n);
5
6 void selection_sort(int arr[], int n);
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    printf("\n Enter the elements of the array: ");
13    for(i=0;i<n;i++) { scanf("%d", &arr[i]); }
14    selection_sort(arr, n);
15    printf("\n The sorted array is: \n");
16    for(i=0;i<n;i++) printf(" %d\t", arr[i]);
17 }
18 int smallest(int arr[], int k, int n)
19 { int pos = k, small=arr[k], i;
20   for(i=k+1;i<n;i++)
21   {
22     if(arr[i]< small)
23     { small = arr[i]; pos = i; }
24   }
25   return pos;
26 }
```

Output

Clear

```
/tmp/wNb2FVPQW5.o
Enter the number of elements in the array: 3
Enter the elements of the array: 21
45
55
The sorted array is:
21 45 55
```

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main.c

Run

Clear

```
15 printf("\n The sorted array is: \n");
16 for(i=0;i<n;i++) printf(" %d\t", arr[i]);
17 }
18 int smallest(int arr[], int k, int n)
19 { int pos = k, small=arr[k], i;
20   for(i=k+1;i<n;i++)
21   {
22     if(arr[i]< small)
23     { small = arr[i]; pos = i; }
24   }
25   return pos;
26 }
27 void selection_sort(int arr[],int n)
28 {
29     int k,
30     pos,
31     temp;
32     for(k=0;k<n;k++)
33     {
34         pos = smallest(arr, k, n);
35         temp = arr[k];
36         arr[k] = arr[pos];
37         arr[pos] = temp;
38     }
39 }
40
```

Output

Clear

```
/tmp/wNb2FVPQW5.o
Enter the number of elements in the array: 3
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45
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