

Exp_05_Insertion_Sort\InsertionSort.c

```
1  #include <stdio.h>
2
3  void insertionSort(int arr[], int n) {
4      for (int i = 1; i < n; i++) {
5          int key = arr[i];
6          int j = i - 1;
7
8          while (j >= 0 && arr[j] > key) {
9              arr[j + 1] = arr[j];
10             j--;
11         }
12         arr[j + 1] = key;
13     }
14 }
15
16 void printArray(int arr[], int n) {
17     for (int i = 0; i < n; i++) {
18         printf("%d ", arr[i]);
19     }
20     printf("\n");
21 }
22
23 int main() {
24     int n;
25
26     printf("Enter number of elements: ");
27     scanf("%d", &n);
28
29     int arr[n];
30     printf("Enter %d elements: ", n);
31     for (int i = 0; i < n; i++) {
32         scanf("%d", &arr[i]);
33     }
34
35     printf("Original array: ");
36     printArray(arr, n);
37
38     insertionSort(arr, n);
39
40     printf("Sorted array: ");
41     printArray(arr, n);
42
43     return 0;
44 }
```