

## 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 }
```