Aim:

To arrange a series of numbers in ascending order using Insertion Sort.

Algorithm:

1. Start with the second element as the key.
2. Compare the key with the elements on its left.
3. Shift elements greater than the key to one position ahead.
4. Insert the key into its correct position.
5. Repeat for all elements.

CODE:

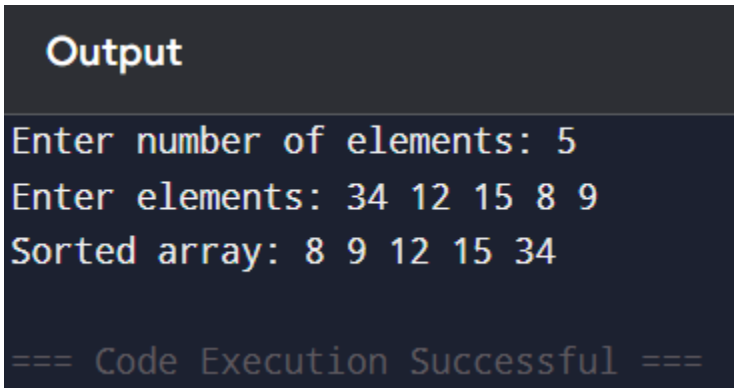
```
#include <stdio.h>

void insertionSort(int arr[], int n) {
    for (int i = 1; i < n; i++) {
        int key = arr[i];
        int j = i - 1;
        while (j >= 0 && arr[j] > key) {
            arr[j + 1] = arr[j];
            j--;
        }
        arr[j + 1] = key;
    }
}

int main() {
    int n, arr[20];
    printf("Enter number of elements: ");
    scanf("%d", &n);
    printf("Enter elements: ");
    for (int i = 0; i < n; i++) scanf("%d", &arr[i]);

    insertionSort(arr, n);
```

```
    printf("Sorted array: ");
    for (int i = 0; i < n; i++) printf("%d ", arr[i]);
    return 0;
}
```



RESULT:

The program successfully executed and displayed the insertion sort method.