

Coding C++

RUN

MENU

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```
1 #include <iostream>
2 using namespace std;
3
4 void insertionSort(int arr[], int n) {
5
6     for (int i = 1; i < n; i++) {
7         int key = arr[i];
8         int j = i - 1;
9
10
11         while (j >= 0 && arr[j] > key) {
12             arr[j + 1] = arr[j];
13             j = j - 1;
14         }
15
16         arr[j + 1] = key;
17     }
18 }
19
20 0
21 void printArray(int arr[], int n) {
22     for (int i = 0; i < n; i++) {
23         cout << arr[i] << " ";
24     }
25     cout << endl;
26 }
27
28 int main() {
29     int arr[] = {12, 11, 13, 5, 6};
30     int n = sizeof(arr) / sizeof(arr[0]);
31
32     cout << "Unsorted array: ";
33     printArray(arr, n);
34
35     insertionSort(arr, n);
36
37     cout << "Sorted array: ";
38     printArray(arr, n);
39
40     return 0;
41 }
```

Coding C++

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```
1 #include<iostream>
2 using namespace std ;
3 void bubbleSort(int arr[], int n) {
4
5     for (int i = 0; i < n - 1; i++) {
6         bool swapped = false;
7
8         for (int j = 0; j < n - i - 1; j++) {
9
10             if (arr[j] > arr[j + 1]) {
11                 swap(arr[j], arr[j + 1]);
12                 swapped = true;
13             }
14         }
15     }
16
17     if (!swapped)
18         break;
19 }
20
21 }
22
23
24 void printArray(int arr[], int n) {
25     for (int i = 0; i < n; i++) {
26         cout << arr[i] << " ";
27     }
28     cout << endl;
29 }
30
31 int main() {
32     int arr[] = {64, 34, 25, 12, 22, 11, 90};
33     int n = sizeof(arr) / sizeof(arr[0]);
34
35     cout << "Unsorted array: ";
36     printArray(arr, n);
37
38     bubbleSort(arr, n);
39
40     cout << "Sorted array: ";
41     printArray(arr, n);
42
43     return 0;
44 }
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Coding C++

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```
1 #include <iostream>
2 using namespace std;
3
4 void selectionSort(int arr[], int n) {
5     for (int i = 0; i < n - 1; i++) {
6         int minIndex = i;
7         for (int j = i + 1; j < n; j++) {
8             if (arr[j] < arr[minIndex]) {
9                 minIndex = j;
10            }
11        }
12        if (minIndex != i) {
13            swap(arr[i], arr[minIndex]);
14        }
15    }
16 }
17
18
19
20
21
22 void printArray(int arr[], int n) {
23     for (int i = 0; i < n; i++) {
24         cout << arr[i] << " ";
25     }
26     cout << endl;
27 }
28
29 int main() {
30     int arr[] = {64, 25, 12, 22, 11};
31     int n = sizeof(arr) / sizeof(arr[0]);
32
33     cout << "Unsorted array: ";
34     printArray(arr, n);
35
36     selectionSort(arr, n);
37
38     cout << "Sorted array: ";
39     printArray(arr, n);
40
41     return 0;
42 }
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