

# 1. Write a c program for bubble sort.

```
1 #include <stdio.h>
2 void bubbleSort(int arr[], int n) {
3     for (int i = 0; i < n-1; i++) {
4         for (int j = 0; j < n-i-1; j++) {
5             if (arr[j] > arr[j+1]) {
6                 // Swap arr[j] and arr[j+1]
7                 int temp = arr[j];
8                 arr[j] = arr[j+1];
9                 arr[j+1] = temp;
10            }
11        }
12    }
13 }
14 void printArray(int arr[], int size) {
15     for (int i = 0; i < size; i++) {
16         printf("%d ", arr[i]);
17     }
18     printf("\n");
19 }
20 int main() {
21     int arr[] = {64, 34, 25, 12, 22, 11, 90};
22     int n = sizeof(arr)/sizeof(arr[0]);
23     printf("Unsorted array: \n");
24     printArray(arr, n);
25     bubbleSort(arr, n);
26     printf("Sorted array: \n");
27     printArray(arr, n);
28     return 0;
29 }
30
```

/tmp/Pp5QEF27y5.o  
Unsorted array:  
64 34 25 12 22 11 90  
Sorted array:  
11 12 22 25 34 64 90  
=== Code Execution Successful ===

# 2. Write a c program for selection sort.

```
main.c
1 #include <stdio.h>
2 void selectionSort(int arr[], int n) {
3     for (int i = 0; i < n-1; i++) {
4         int minIndex = i;
5         for (int j = i+1; j < n; j++) {
6             if (arr[j] < arr[minIndex]) {
7                 minIndex = j;
8             }
9         }
10        int temp = arr[minIndex];
11        arr[minIndex] = arr[i];
12        arr[i] = temp;
13    }
14 }
15 void printArray(int arr[], int size) {
16     for (int i = 0; i < size; i++) {
17         printf("%d ", arr[i]);
18     }
19     printf("\n");
20 }
21 int main() {
22     int arr[] = {64, 25, 12, 22, 11};
23     int n = sizeof(arr)/sizeof(arr[0]);
24     printf("Unsorted array: \n");
25     printArray(arr, n);
26     selectionSort(arr, n);
27     printf("Sorted array: \n");
28     printArray(arr, n);
29     return 0;
30 }
31
```

/tmp/dzU4U4ytTn.o  
Unsorted array:  
64 25 12 22 11  
Sorted array:  
11 12 22 25 64  
=== Code Execution Successful ===