Question1.cpp

```cpp
//<----Lab 02- Sorting Techniques---->

// Q1. If the array is already sorted, we don’t want to continue with the comparisons. This can
// be achieved with modified bubble sort. Update the code in example 02 to have a
// modified bubble sort function.

#include <bits/stdc++.h>
using namespace std;

// A function to implement bubble sort
void bubbleSort(int arr[], int n){
    bool Swap = false;
    int i, j;
    for (i = 0; i < n - 1; i++){
    // Last i elements are already in place
        for (j = 0; j < n - i - 1; j++){
                if (arr[j] > arr[j + 1]){
                    Swap = true;
                    swap(arr[j], arr[j + 1]);
                }
        }
        if(!Swap){
            break;
        }
    }
}
// Function to print an array
void printArray(int arr[], int size){
    int i;
    for (i = 0; i < size; i++)
        cout << arr[i] << " ";
        cout << endl;

}

// Driver code
int main(){
    int arr[] = { 5, 1, 4, 2, 8};
    int N = sizeof(arr) / sizeof(arr[0]);
    cout << "Unsorted array: \n";
    printArray(arr, N);
    bubbleSort(arr, N);
    cout << "Sorted array: \n";
    printArray(arr, N);
    return 0;
}
```