BUBBLE SORT

```cpp
#include <iostream>
#include <fstream>

const int size = 15;

// Function to display the array
void displayArray(char arr[]) {
    for (int i = 0; i < size; ++i) {
        std::cout << arr[i] << " ";
    }
    std::cout << "\n";
}

// Function to sort the array in ascending order using bubble sort
void sortAscending(char arr[]) {
    for (int i = 0; i < size - 1; ++i) {
        for (int j = 0; j < size - i - 1; ++j) {
            if (arr[j] > arr[j + 1]) {
                // Swap elements if they are in the wrong order
                char temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
}

// Function to sort the array in descending order using bubble sort
void sortDescending(char arr[]) {
    for (int i = 0; i < size - 1; ++i) {
        for (int j = 0; j < size - i - 1; ++j) {
            if (arr[j] < arr[j + 1]) {
                // Swap elements if they are in the wrong order
                char temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
}

int main() {
    char arr[size];

    // Initialize array from a file (you can replace "input.txt" with your file
name)
    std::ifstream inputFile("input.txt");
    if (inputFile.is_open()) {
        for (int i = 0; i < size; ++i) {
            inputFile >> arr[i];
        }
        inputFile.close();
    }
    else {
```

```
        std::cerr << "Unable to open the file.\n";
        return 1;
    }

    // Display original array
    std::cout << "Original Array: ";
    displayArray(arr);

    // Sort in ascending order using bubble sort
    sortAscending(arr);
    std::cout << "Array after sorting in ascending order: ";
    displayArray(arr);

    // Sort in descending order using bubble sort
    sortDescending(arr);
    std::cout << "Array after sorting in descending order: ";
    displayArray(arr);

    return 0;
}
```