# Third Year B. Tech (EL & CE)

**Semester: V Subject:** Object-Oriented Programming Lab

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**Roll No: 52 Batch: A3**

# Experiment No: 07

**Name of the Experiment**: **Bubble sort Algorithm**

**Performed on: 27/09/2023**

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**Problem Statement:**

Perform bubble sort operation using the template for integer and floating data types

**Output:**

Original integer array: 7 10 888 2 3

Sorted integer array: 2 3 7 10 888

Original float array: 3.14 1.23 2.71 0.99 4.56

Sorted float array: 0.99 1.23 2.71 3.14 4.56

**Code:**

#include <iostream>

#include <vector>

template <typename T>

void bubbleSort(std::vector<T> &arr) {

int n = arr.size();

bool swapped;

do {

swapped = false;

for (int i = 0; i < n - 1; ++i) {

if (arr[i] > arr[i + 1]) {

std::swap(arr[i], arr[i + 1]);

swapped = true;

}

}

} while (swapped);

}

int main() {

// Sorting integers

std::vector<int> intArr = {7,10,888,2,3};

std::cout << "Original integer array: ";

for (const int &num : intArr) {

std::cout << num << " ";

}

std::cout << std::endl;

bubbleSort(intArr);

std::cout << "Sorted integer array: ";

for (const int &num : intArr) {

std::cout << num << " ";

}

std::cout << std::endl;

// Sorting floats

std::vector<float> floatArr = {3.14, 1.23, 2.71, 0.99, 4.56};

std::cout << "Original float array: ";

for (const float &num : floatArr) {

std::cout << num << " ";

}

std::cout << std::endl;

bubbleSort(floatArr);

std::cout << "Sorted float array: ";

for (const float &num : floatArr) {

std::cout << num << " ";

}

std::cout << std::endl;

return 0;

}



