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**Section: D**

**ROLL NO: CT-178**

# LAB 6

***QUESTION 1***

***INPUT:***

#include <iostream>

#include <vector>

using namespace std;

void modifiedbubblesort(vector<int>& *arr*) {

 int n=*arr*.size();

 for (int i = 0; i < n - 1; i++) {

 bool swapped = false;

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

if (*arr*[j] > *arr*[j + 1]) {

 swap(*arr*[j], *arr*[j + 1]); swapped = true;

    }

}

if (!swapped) break;

}

}

int main() {

vector <int> arr={5,1,4,2,8};

cout << "Original Array: ";

for (int x: arr){

      cout<<x<<" ";

    }

modifiedbubblesort(arr);

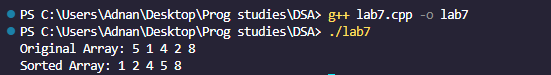
cout<<endl<<"Sorted Array: ";

for (int x: arr) { cout<<x<<" "; }

return 0;

}

***Output:***



***Question 2:***

***INPUT:***

#include <iostream>

#include <algorithm>

using namespace std;

int toys(int *arr*[], int *N*, int *K*) {

    sort(*arr*, *arr* + *N*);

    int count = 0;

    int sum = 0;

    for (int i = 0; i < *N*; i++) {

        if (sum + *arr*[i] <= *K*) {

            sum += *arr*[i];

            count++;

        } else {

            break;

        }

    }

    return count;

}

int main() {

    int a[] = {1, 12, 5, 111, 200, 1000, 10};

    int N = sizeof(a) / sizeof(a[0]);

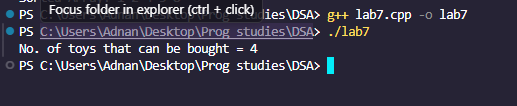
    int K = 50;

    cout << "No. of toys that can be bought = " << toys(a, N, K);

    return 0;

}

***OUTPUT:***

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