1. Write a function to find the maximum difference between any two elements in an array.The function should return the maximum difference between any two elements in the array.

#include <iostream>

#include <vector>

using namespace std;

int findMinElement(const vector<int>& nums) {

if (nums.empty()) {

return -1;

}

int minElement = nums[0];

for (int i = 1; i < nums.size(); ++i) {

if (nums[i] < minElement) {

minElement = nums[i];

}

}

return minElement;

}

// Function to find the max difference

int maxDifference(const vector<int>& nums) {

if (nums.empty() || nums.size()==1) return -1;

int minElement = findMinElement(nums); // Find the minimum element in the array

int maxDiff = 0;

for (int i = 0; i < nums.size(); ++i) {

maxDiff = max(maxDiff, nums[i] - minElement);

}

return maxDiff;

}

int main() {

vector<int> nums = {7, 1, 5, 3, 6, 4};

cout << "Maximum difference between any two elements in the array: "

<< maxDifference(nums) << endl;

}

OUTPUT

