[**Divide Array Into Arrays With Max Difference**](https://leetcode.com/problems/divide-array-into-arrays-with-max-difference/)

You are given an integer array nums of size n and a positive integer k.

Divide the array into one or more arrays of size 3 satisfying the following conditions:

* **Each** element of nums should be in **exactly** one array.
* The difference between **any** two elements in one array is less than or equal to k.

Return *a***2D***array containing all the arrays. If it is impossible to satisfy the conditions, return an empty array. And if there are multiple answers, return****any****of them.*

**Example 1:**

**Input:** nums = [1,3,4,8,7,9,3,5,1], k = 2

**Output:** [[1,1,3],[3,4,5],[7,8,9]]

**Explanation:** We can divide the array into the following arrays: [1,1,3], [3,4,5] and [7,8,9].

The difference between any two elements in each array is less than or equal to 2.

Note that the order of elements is not important.

**Example 2:**

**Input:** nums = [1,3,3,2,7,3], k = 3

**Output:** []

**Explanation:** It is not possible to divide the array satisfying all the conditions.

**Constraints:**

* n == nums.length
* 1 <= n <= 105
* n is a multiple of 3.
* 1 <= nums[i] <= 105
* 1 <= k <= 105

Code :

class Solution {

public:

    vector<vector<int>> divideArray(vector<int>& nums, int k) {

        int size = nums.size();

        if (size % 3 != 0)

            return vector<vector<int>>();

        sort(nums.begin(), nums.end());

        vector<vector<int>> result(size / 3, vector<int>(3));

        int groupIndex = 0;

        for (int i = 0; i < size; i += 3) {

            if (i + 2 < size && nums[i + 2] - nums[i] <= k) {

                result[groupIndex] = { nums[i], nums[i + 1], nums[i + 2] };

                groupIndex++;

            }

            else {

                return vector<vector<int>>();

            }

        }

        return result;

    }

};

Link : - <https://leetcode.com/problems/divide-array-into-arrays-with-max-difference/description/?envType=daily-question&envId=2024-02-01>