**1502. Can Make Arithmetic Progression From Sequence :-**

Easy Accepted: 164.8K Submissions: 236.4K Acceptance Rate: 69.7%

A sequence of numbers is called an **arithmetic progression** if the difference between any two consecutive elements is the same.

Given an array of numbers arr, return true *if the array can be rearranged to form an****arithmetic progression****. Otherwise, return* false.

**Example 1:**

**Input:** arr = [3,5,1]

**Output:** true

**Explanation:** We can reorder the elements as [1,3,5] or [5,3,1] with differences 2 and -2 respectively, between each consecutive elements.

**Example 2:**

**Input:** arr = [1,2,4]

**Output:** false

**Explanation:** There is no way to reorder the elements to obtain an arithmetic progression.

**Constraints:**

* 2 <= arr.length <= 1000
* -106 <= arr[i] <= 106

**Code :-**

class Solution {

public:

    bool canMakeArithmeticProgression(vector<int>& arr) {

        if(arr.size()==2)   return true;

        sort(arr.begin(), arr.end());

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

            if((arr[i]-arr[i-1]) != (arr[1]-arr[0]))

                return false;

        }

        return true;

    }

};

**T.C :- O(n\*logn)**

**S.C :- O(1)**