**Check Arithmetic Progression**

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Given an array of **N** integers. Write a program to check whether an arithmetic progression can be formed using all the given elements. If possible print “YES”, else print “NO”.  
  
**Input:**  
First line of input contains a single integer T which denotes the number of test cases. Then T test cases follows. First line of each test case contains a single integer N which denotes number of elements in the array. Second line of each test case contains N space separated integers which denotes elements of the array.  
  
**Output:**  
For each test case, print "YES" without quotes if an arithmetic progression can be formed using all the given elements, else print "NO" without quotes.  
  
**Constraints:**  
1<=T<=100  
1<=N<=105  
1<=Arr[i]<=105  
  
**Example:  
Input:**  
2  
4  
0 12 4 8  
4  
12 40 11 20  
**Output:**  
YES  
NO

\*\*For More Examples Use Expected Output\*\*

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<http://practice.geeksforgeeks.org/problems/check-arithmetic-progression/0>

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package javaapplication250;

import java.io.\*;

import java.math.\*;

import java.util.\*;

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\* @author Administrador

\*/

public class JavaApplication250 {

public static void main(String[] args) throws IOException {

// TODO code application logic here

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine());

while(t-- > 0) {

int n = Integer.parseInt(br.readLine());

String[] input = br.readLine().trim().split(" ");

int[] arr = new int[n];

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

arr[i] = Integer.parseInt(input[i]);

}

Arrays.sort(arr);

String ans = "YES";

if(arr.length > 1) {

int actual = arr[1] - arr[0];

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

if(arr[i+1] - arr[i] != actual) {

ans ="NO";

break;

}

}

System.out.println(ans);

}else {

System.out.println("YES");

}

}

}

}