**Monk and Conversion Game**

Attempted by: **1208**

/

Accuracy: **91%**

/

Maximum Score: **30**

/

13 Votes

Tag(s):

Easy-Medium

**PROBLEM**

**EDITORIAL**

**MY SUBMISSIONS**

**ANALYTICS**

Monk was having a great time in the **Digital World**, and was surprised to see a new game called, "Conversion Game". In this game, two arrays of *N* integers A1,A2...AN and B1,B2...BN are playing against each other and Array *A* wants to convert itself in Array *B*.

Array *A* can do two types of operations on itslef:   
1 Take two adjacent elements Ai and Ai+1 , increase Ai by 1 and decrease Ai+1 by 1.  
2 Take two adjacent elements Ai and Ai+1 , decrease Ai by 1 and increase Ai+1 by 1.

Monk being an awesome coder, wants to know whether Array *A* can convert itself into Array *B*, by using any number of such operations. You have to print "YES" (without quotes), if Array *A* can convert itself into array *B*, else print "NO" (without quotes).

**INPUT:**  
First line of input will consists of integer *T* denoting total number of test cases. Each test case will begin with integer *N*. Next line will consists of *N* integers A1,A2...AN. Next line will consists of *N* integers B1,B2...BN.

**OUTPUT:**  
Print "YES" (without quotes), if Array *A* can convert itself into array *B* by using any number of operations, else print "NO" (without quotes).

**CONSTRAINTS:**  
1 ≤ T ≤ 10  
1 ≤ N ≤ 1000  
1 ≤ Ai, Bi ≤ 106

**SAMPLE INPUT**

2

5

1 2 1 3 2

1 1 1 2 4

5

1 1 10 1 1

1 2 2 2 4

**SAMPLE OUTPUT**

YES

NO

**Explanation**

In the first test case, you can arrive at the second sequence using operations on first sequence.

**Time Limit:**1.0 sec(s) for each input file.

**Memory Limit:**256 MB

**Source Limit:**1024 KB

**Marking Scheme:**Marks are awarded when all the testcases pass.

**Allowed Languages:**C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Swift-4.1, Visual Basic

#include<iostream>

using namespace std;

int main()

{

int t,n,i,j;

cin>>t;

while(t>0)

{

cin>>n;

long long int a[n],b[n];

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

{

cin>>a[i];

}

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

{

cin>>b[i];

}

long long int sum1=0,sum2=0;

for(j=0;j<n;j++)

{

sum1=sum1+a[j];

sum2=sum2+b[j];

}

if(sum1==sum2)

cout<<"YES"<<endl;

else

cout<<"NO"<<endl;

t--;

}

return 0;

}