FTE Screening Test Batch of 2021 - Mock 1

Aug 02, 2020, 08:30 PM IST - Aug 02, 2020, 10:30 PM IST

Power Ranger

Max. score: 100

This problem is no longer available for practice. Apology for any inconvenience!

Chandu could never decide who his favourite power ranger is.
His friend Nandu decided to help him select his favourite ranger.

Each power ranger has specific amount of power. Nandu gave Chandu an array called **power[]** of size **n**, where **power[i]** represents power of Ranger(i).

Nandu tells Chandu that if he finds a ranger with power=**p**, then he is the strongest ranger and should also be his favourite ranger.

Now the rules:

- Chandu will initially be positioned at an index **s** in the array, which is the starting point.
- When at a given index **i**, Chandu can only move to indices **i+power[i]** and **i-power[i]** and check if he finds a power ranger with power= p

Print **"YES"** if he will be able to find the ranger with power=p following the above mentioned rules. If not possible, print **"NO"**

Note: At any point of time, you cannot move outside the array

Input Format

- The first line of input contains *T* the number of test cases.
- For each test case, 1st line has three integers *n,s* and *p* as mentioned.
- For each test case 2nd line, contains an array power[] of size *n* , containing power of each ranger.

Contraints

1 ≤ T ≤ 10^6

1 ≤ n ≤ 10^6

0 ≤ s, p ≤ 10^6

0≤ power[i] ≤10^6

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Output Format

For each test case, output should be "YES" if Chandu will be able to find his favourite power ranger who has a power =p else "NO"

SAMPLE INPUT	SAMPLE OUTPUT
1 7 5 0 4 2 3 0 3 1 2	YES

Explanation

All possible ways to reach at index 3 with value 0 starting from index 5 following the rules are:

index 5 -> index 4 -> index 1 -> index 3

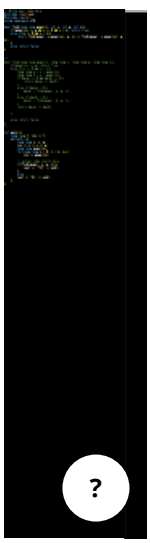
index 5 -> index 6 -> index 4 -> index 1 -> index 3

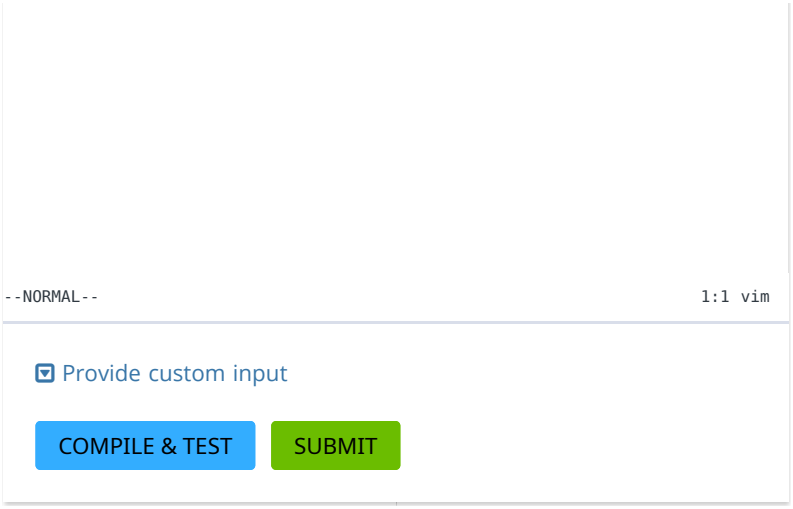
Time Limit:	0.12 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Score is assigned if any testcase passes.
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

Save C++17 (g++ 5.4.0)

```
1   // Write your code here
2   #include <iostream>
3   #include <vector>
4   using namespace std;
5
6   bool find(long long power[], int s, int p, int n){
7       if(power[s] == p && s >= 0 && s < n) return true;
8       else if(s >= 0 && s < n){
9           return find(power, s+power[s], p, n) || find(power, s-power[s], p,
    n);
10      }
11      else return false;
12  }
13
14
15  /*
16  bool find(long long power[], long long s, long long p, long long n){
```





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