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A Directi Educational Initiative

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CODECHEF Certified
Data Structure & Algorithms Programme (CCDSAP)

EXAM DATE **26** **AUGUST 2018**

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A Balanced Contest | Problem Code: **PERFCONT**

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Chef wants to organize a contest. Predicting difficulty levels of the problems can be a daunting task. Chef wants his contests to be balanced in terms of difficulty levels of the problems.

Assume a contest had total **P** participants. A problem that was solved by at least half of the participants (i.e. **P / 2** (integer division)) is said to be cakewalk difficulty. A problem solved by at max **P / 10** (integer division) participants is categorized to be a hard difficulty.

Chef wants the contest to be balanced. According to him, a balanced contest must have exactly 1 cakewalk and exactly 2 hard problems. You are given the description of **N** problems and the number of participants solving those problems. Can you tell whether the contest was balanced or not?

Input

The first line of the input contains an integer **T** denoting the number of test cases.

The first line of each test case contains two space separated integers, **N, P** denoting the number of problems, number of participants respectively.

The second line contains **N** space separated integers, **i**-th of which denotes number of participants solving the **i**-th problem.

Output

For each test case, output "yes" or "no" (without quotes) denoting whether the contest is balanced or not.

Constraints

Subtasks

- **Subtask #1** (40 points): **P** is a multiple of 10
- **Subtask #2** (60 points): Original constraints

Example

```
Input
6
3 100
10 1 100
3 100
11 1 100
3 100
10 1 10
3 100
10 1 50
4 100
50 50 50 50
4 100
1 1 1 1

Output
yes
no
no
yes
no
no
```

Explanation

Example case 1.: The problems are of hard, hard and cakewalk difficulty. There is 1 cakewalk and 2 hard problems, so the contest is balanced.

Example case 2.: The second problem is hard and the third is cakewalk. There is 1 cakewalk and 1 hard problem, so the contest is not balanced.

Example case 3.: All the three problems are hard. So the contest is not balanced.

Example case 4.: The problems are of hard, hard, cakewalk difficulty. The contest is balanced.

Example case 5.: All the problems are cakewalk. The contest is not balanced.

Example case 6.: All the problems are hard. The contest is not balanced.

Languages:	C, CPP14, JAVA, PYTH, PYTH 3.5, PYPY, CS2, PAS fpc, PAS gpc, RUBY, PHP, GO, NODEJS, HASK, SCALA, D, PERL, FORT, WSPC, ADA, CAML, ICK, BF, ASM, CLPS, PRLG, ICON, SCM qobi, PIKE, ST, NICE, LUA, BASH, NEM, LISP sbcl, LISP clisp, SCM guile, JS, ERL, TCL, PERL6, TEXT, SCM chicken, CLOJ, FS

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Intelligent People. Uncommon Ideas.

The time now is: 10:57:48 AM
Your IP: 169.54.6.221

CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests and Cook-offs

Here is where you can show off your **computer programming skills**. Take part in our 10 day long monthly coding contest and the shorter format Cook-off **coding contest**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), $700 (for Global Community) and lots more CodeChef goodies up for grabs.

Programming Tools	**Practice Problems**	**Initiatives**
Online IDE	Easy	Go for Gold
Upcoming Coding Contests	Medium	CodeChef for Schools
Contest Hosting	Hard	Campus Chapters
Problem Setting	Challenge	
CodeChef Tutorials	Peer	
CodeChef Wiki	School	
	FAQ's	