1880 - Cool Game

Description

The small home Vlad is very boring because its video game console is broken. Vlad and his brother Gustav decide to play a simple game to occupy their time.

This is the game:
You are given two matrices (**original** and **target**), which are two rectangular matrices with the same dimensions. Each character in the matrices will be either '0' or '1'. The goal is transform **original** into **target**. You are only allowed to use one type of operations: Pick either a single row or a single column, and permute all its characters arbitrarily. You may use as many operations as you want to, one after another.

Is it possible to transform **original** into **target** by using the allowed operations only? Vlad says “YES" if it's possible, "NO" otherwise (quotes for clarity).

Input specification

The first line consists of an integer number representing the number of test cases (no more than 10). Each case contains an integer **N** representing the number of rows of the matrices, the following **2 * N** lines represent the states of the arrays. The first **N** lines represent the **original** matrix, the rest represent the **target** matrix. No matrix has more than 50 rows. No matrix has more than 50 columns.

Output specification

For each test case you must print the response corresponding to the given matrices.

Sample input

```
2
1
01
11
2
0111
0011
1011
```

```
1100
```

Sample output

```
NO
YES
```

Hint(s)

Source	Vladimir Antonio Charchabal Escalona
Added by	**ymondelo20**
Addition date	2012-06-13
Time limit (ms)	2000
Test limit (ms)	1000
Memory limit (kb)	130000
Output limit (mb)	64
Size limit (bytes)	30000
Enabled languages	Bash C C# C++ Java Pascal Perl PHP Python Ruby Text