Corrupted File

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

The WannaLaugh malware is a new computer malware that is spreading on the internet. If a computer is infected by this malware, then the malware will corrupt all files in the computer. A file in a computer contains zero or more bits. The malware corrupts a file by performing zero or more operations. In one operation, the malware randomly picks two consecutive bits and replaces them with a single bit. The new bit is 1 if both of the replaced bits are 1, or 0 otherwise.

For example, the malware might corrupt a file with bits 11011011 as follows:

1. The malware picks the first and second bits: **11**011011 $\rightarrow$ **1**011011.
2. The malware picks the second and third bits: 1**01**1011 $\rightarrow$ 1**0**1011.
3. The malware picks the third and fourth bits: 10**10**11 $\rightarrow$ 10**0**11.

Alternatively, the malware might first pick the third and fourth bits: 11**01**1011 $\rightarrow$ 11**0**1011.

At the start of the day, you have a file containing n bits, denoted by B. You spend the day surfing the internet, including checking on your favorite programming contest website, just like many ICPC contestants would do. At the end of the day, the same file contains m bits, denoted by C. You want to determine whether this file could have been corrupted by the WannaLaugh malware, or if it must have changed for other reasons.

Input

The first line of input contains one integer t ($1 \leq t \leq 10\,000$) representing the number of test cases. After that, t test cases follow. Each of them is presented as follows.

The first line of input contains two integers n and m ($1 \leq m \leq n \leq 100\,000$). The second line contains a string with n characters, each is either `0` or `1`, representing the bits B. The third line contains a string with m characters, each is either `0` or `1`, representing the bits C.

The sum of n across all test cases in one input file does not exceed 100 000.

Output

For each test case, output `yes` if the file with bits B could have been corrupted by the WannaLaugh malware into bits C, or `no` otherwise.

Example

standard input	standard output
3 8 5 11011011 10011 3 3 101 101 3 2 101 00	yes yes no

Note

Explanation for the sample input/output #1

The first test case corresponds to the example from the problem description.

For the second test case, it is possible that the malware performs zero operations.

For the third test case, it is impossible for the malware to corrupt a file with bits 101 so that it has bits 00.