

B. Not Quite a Palindromic String

time limit per test: 2 seconds
memory limit per test: 256 megabytes

Vlad found a binary string* s of even length n . He considers a pair of indices $(i, n - i + 1)$, where $1 \leq i < n - i + 1$, to be good if $s_i = s_{n-i+1}$ holds true.

For example, in the string '010001' there is only 1 good pair, since $s_1 \neq s_6$, $s_2 \neq s_5$, and $s_3 = s_4$. In the string '0101' there are no good pairs.

Vlad loves palindromes, but not too much, so he wants to rearrange some characters of the string so that there are exactly k good pairs of indices.

Determine whether it is possible to rearrange the characters in the given string so that there are exactly k good pairs of indices $(i, n - i + 1)$.

*A string s is called binary if it consists only of the characters '0' and '1'

Input

The first line contains an integer t ($1 \leq t \leq 10^4$) — the number of test cases.

The first line of each test case contains two integers n and k ($2 \leq n \leq 2 \cdot 10^5$, $0 \leq k \leq \frac{n}{2}$, n is even) — the length of the string and the required number of good pairs.

The second line of each test case contains a binary string s of length n .

It is guaranteed that the sum of n across all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output "YES" if there is a way to rearrange the characters of the string so that there are exactly k good pairs, otherwise output "NO".

You may output each letter in any case (lowercase or uppercase). For example, the strings "yEs", "yes", "Yes", and "YES" will be accepted as a positive answer.

Example

input	Copy
6 6 2 000000 2 1 01 4 1 1011 10 2 1101011001 10 1 1101011001 2 1 11	
output	Copy
NO NO YES NO YES YES	

Codeforces Round 1027 (Div. 3)

Contest is running

01:27:04

Contestant



→ Submit?

Language: GNU G++23 14.2 (64 bit, ms)

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
321459397	May/26/2025 18:20	Accepted

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