Problem I. Deciding Game

Little Cyan Fish is preparing the schedule of the *Table Tennis Night* in The 2nd Universal Cup Finals. "*Aha, it's time to host a Universal Cup Table Tennis Championship!*"

Little Cyan Fish wants to set a rule that determines the winner after multiple games. Each table tennis game is played with two players, called A and B. A winner is always decided in each game — therefore, there is no draw in table tennis. The winner of each game will score one point, and the other player will not get any points. The championship between two players will end immediately when the following conditions are both met:

- At least one player has scored m points;

- One player is ahead by at least two points.

Little Cyan Fish has a magic that could accurately predict the results of all the matches. He provided a string of length n, $s_1 s_2 \ldots s_n$, where each character is either 'A' or 'B'. Here, 'A' represents player A and 'B' represents player B, indicating that the i-th point in the match will be scored by the player represented by $s_{((i-1) \bmod n)+1}$.

You need to calculate how many points will be scored before the match ends or indicate that the match will never end.

Input

There are multiple test cases. The first line of the input contains a single integer T ($T \geq 1$), indicating the number of the test cases. For each test case:

The first line of the input contains two integers n and m ($1 \leq n \leq 2 \times 10^5$, $1 \leq m \leq 10^{18}$).

The second line of the input contains a string $s_1 s_2 \ldots s_n$ containing only 'A's and 'B's.

It is guaranteed that the sum of n over all test cases does not exceed 2×10^5.

Output

For each test case:

If the championship will never end, output a single line with a single word "No".

Otherwise, the first line of the output should contain the word "Yes".

The next line of the output should contain a single integer, indicating how many points will be scored before the championship ends.

Example

standard input	standard output
3	Yes
1 11	11
A	No
2 11	Yes
AB	17
3 11	
ABB	