One-Dimensional Maze

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	64 megabytes

BaoBao is trapped in a one-dimensional maze consisting of n grids arranged in a row! The grids are numbered from 1 to n from left to right, and the i-th grid is marked with a character s_i, where s_i is either 'L' or 'R'.

Starting from the m-th grid, BaoBao will repeatedly take the following steps until he escapes the maze:

- If BaoBao is in the 1st grid or the n-th grid, then BaoBao is considered to arrive at the exit and thus can escape successfully.
- Otherwise, let BaoBao be in the t-th grid. If $s_t =$ 'L', BaoBao will move to the $(t-1)$-th grid; If $s_t =$ 'R', Baobao will move to the $(t+1)$-th grid.

Before taking the above steps, BaoBao can change the characters in some grids to help himself escape. Concretely speaking, for the i-th grid, BaoBao can change s_i from 'L' to 'R', or from 'R' to 'L'.

But changing characters in grids is a tiring job. Your task is to help BaoBao calculate the minimum number of grids he has to change to escape the maze.

Input

There are multiple test cases. The first line of the input contains an integer T, indicating the number of test cases. For each test case:

The first line contains two integers n and m ($3 \le n \le 10^5$, $1 < m < n$), indicating the number of grids in the maze, and the index of the starting grid.

The second line contains a string s ($|s| = n$) consisting of characters 'L' and 'R'. The i-th character of s indicates the character in the i-th grid.

It is guaranteed that the sum of n over all test cases will not exceed 10^6.

Output

For each test case output one line containing one integer, indicating the minimum number of grids BaoBao has to change to escape the maze.

Example

standard input	standard output
3 3 2 LRL 10 4 RRRRRRRLLR 7 4 RLLRLLR	0 2 1

Note

For the first sample test case, BaoBao doesn't have to change any character and can escape from the 3-rd grid. So the answer is 0.

For the second sample test case, BaoBao can change s_8 to 'R' and s_9 to 'R' and escape from the 10-th grid. So the answer is 2.

For the third sample test case, BaoBao can change s_4 to 'L' and escape from the 1-st grid. So the answer is 1.