

Problem A. Black and White Stripe

Time limit 2000 ms
Mem limit 262144 kB

You have a stripe of checkered paper of length n . Each cell is either white or black.

What is the minimum number of cells that must be recolored from white to black in order to have a segment of k consecutive black cells on the stripe?

If the input data is such that a segment of k consecutive black cells already exists, then print 0.

Input

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

Next, descriptions of t test cases follow.

The first line of the input contains two integers n and k ($1 \leq k \leq n \leq 2 \cdot 10^5$). The second line consists of the letters 'W' (white) and 'B' (black). The line length is n .

It is guaranteed that the sum of values n does not exceed $2 \cdot 10^5$.

Output

For each of t test cases print an integer — the minimum number of cells that need to be repainted from white to black in order to have a segment of k consecutive black cells.

Examples

Input	Output
4 5 3 BBWBW 5 5 BBWBW 5 1 BBWBW 1 1 W	1 2 0 1

Note

In the first test case, $s = \text{"BBWBW"}$ and $k = 3$. It is enough to recolor s_3 and get $s = \text{"BBBBW"}$. This string contains a segment of length $k = 3$ consisting of the letters 'B'.

In the second test case of the example $s = \text{"BBWBW"}$ and $k = 5$. It is enough to recolor s_3 and s_5 and get $s = \text{"BBBBB"}$. This string contains a segment of length $k = 5$ consisting of the letters 'B'.

In the third test case of the example $s = \text{"BBWBW"}$ and $k = 1$. The string s already contains a segment of length $k = 1$ consisting of the letters 'B'.