
Problem A. Turn It Off

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

It's already 21:30 now, and it's time for BaoBao to go to bed. To ensure his sleeping quality, BaoBao decides to turn all the lights in his bedroom off.

There are n lights, numbered from 1 to n , arranged in a row in BaoBao's bedroom. Each time BaoBao can select an integer i and turn all the lights numbered from i to $(i + L - 1)$ (both inclusive) off, where L is a predefined positive integer. Note that each time the value of L must be the same.

Given the initial status of all the lights, please help BaoBao determine the smallest possible L so that he can turn all the lights off within k times.

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 k ($1 \leq k \leq n \leq 2 \times 10^5$).

The second line contains a string s ($|s| = n$, $s \in \{ '0', '1' \}$) indicating the initial status of the lights. Let s_i be the i -th character in s , if $s_i = '1'$ then the i -th light is initially on, otherwise it's initially off. It's guaranteed that there is at least one '1' in s .

It's guaranteed that the sum of n of all test cases will not exceed 2×10^6 .

Output

For each test case output one line containing one integer, indicating the smallest possible L .

Example

standard input	standard output
2	3
10 4	1
0101011111	
3 1	
010	