E. K-periodic Garland

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a garland consisting of n lamps. States of the lamps are represented by the string s of length n. The i-th character of the string s_i equals '0' if the i-th lamp is turned off or '1' if the i-th lamp is turned on. You are also given a positive integer k.

In one move, you can choose **one lamp** and change its state (i.e. turn it on if it is turned off and vice versa).

The garland is called k-periodic if the distance between **each pair of adjacent turned on lamps** is **exactly** k. Consider the case $k = 3$. Then garlands "00010010", "1001001", "00010" and "0" are good but garlands "00101001", "1000001" and "01001100" are not. Note that **the garland is not cyclic**, i.e. the first turned on lamp is not going after the last turned on lamp and vice versa.

Your task is to find the **minimum** number of moves you need to make to obtain k-periodic garland from the given one.

You have to answer t independent test cases.

Input

The first line of the input contains one integer t ($1 \le t \le 25\,000$) — the number of test cases. Then t test cases follow.

The first line of the test case contains two integers n and k ($1 \le n \le 10^6$; $1 \le k \le n$) — the length of s and the required period. The second line of the test case contains the string s consisting of n characters '0' and '1'.

It is guaranteed that the sum of n over all test cases does not exceed 10^6 ($\sum n \le 10^6$).

Output

For each test case, print the answer — the **minimum** number of moves you need to make to obtain k-periodic garland from the given one.

Example

input

```
6
9 2
010001010
9 3
111100000
```

```
7 4
1111111
10 3
1001110101
1 1
1
1 1
0
```

output

```
1
2
5
4
0
0
```

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