Problem F

Special Substring

A substring of a string is a contiguous sequence of characters from the string. For example, BC is a substring of ABCD which starts from the second character of ABCD. Another example, ABC is a substring of ABCD which starts from the first character of ABCD. Note that ABCD itself is also a substring of ABCD.

In this problem, we define a *special substring* as a non-empty substring that contains only the same character. For example, B and CC are special substrings of ABBCCC, while ABBC and BC are not special substrings.

You are given a string S of length N and an integer K. Your task is to determine the minimum number of characters of S that need to be changed such that there exists a special substring of length K in S.

For example, let $N = 6$, $K = 4$, and $S =$ ABBCCC. In this example, we only need to change the third character of S to C (i.e. ABBCCC $\rightarrow$ ABCCCC) so that we have a special substring CCCC of length 4.

Input

Input begins with a line containing two integers: N K ($1 \leq K \leq N \leq 100\,000$) representing the length of the string and the length of a special substring that should be produced, respectively. The next line contains a string S containing N uppercase alphabetical character, i.e. $S_i \in$ [A-Z].

Output

Output in a line an integer representing the minimum number of characters of S that need to be changed such that there exists a special substring of length K in the given S.

Sample Input #1

```
6 4
ABBCCC
```

Sample Output #1

```
1
```

Explanation for the sample input/output #1

This is the example from the problem description.

Sample Input #2

```
9 6
AABCABBBA
```

Sample Output #2

```
2
```

Explanation for the sample input/output #2

If we change the fourth and fifth characters of S to B, i.e. AAB<u>CA</u>BBBA → AAB<u>BB</u>BBBA, then S will have a special substring of length 6 which is BBBBBB (AAB<u>BBBBB</u>A). In this case, it is not possible to have a special substring of length 6 in S by changing fewer than 2 characters.

Sample Input #3

```
10 7
BAABAABAAB
```

Sample Output #3

```
2
```

Explanation for the sample input/output #3

If we change the fourth and seventh characters of S to A, i.e. BAA<u>B</u>AA<u>B</u>AAB → BAA<u>A</u>AA<u>A</u>AAB, then S will have a special substring of length 7 which is AAAAAAA (either B<u>AAAAAAA</u>AB or BA<u>AAAAAAA</u>B). In this case, it is not possible to have a special substring of length 7 in S by changing fewer than 2 characters.

Sample Input #4

```
6 2
INNCCC
```

Sample Output #4

```
0
```

Explanation for the sample input/output #4

The string INNCCC already has a special substring of length 2, e.g., NN or CC.