3057 - Black and White Stones

Description

Shagga and Dolf like to play a game with stones, each of which is either black or white. At the beginning of the game, Dolf arranges all the stones in a single line from left to right. Then, Shagga's goal is to reorder the stones so that all the black stones are to the left of all the white stones. To do this, he can choose any pair of stones of different color and swap their positions, paying A coins to Dolf in the process. However, if the two stones whose positions he is swapping are adjacent, Dolf must give him a refund of B coins, meaning that the operation will effectively cost Shagga only A - B coins.

Shagga is not very bright, so he hasn't realized yet that he will only loose coins while playing this game. However, he is aware of his limitations, so he knows that if he played optimally he would loose fewer coins than he is loosing right now, with his strategy of randomly choosing the stones he swaps in each movement. Therefore, he wants to know the minimum number of coins he will have to pay Dolf in order to get to the desired arrangement of stones, and is threatening to feed you to the goats if you don't help him.

Input specification

The first line contains two integers A and B (0 <= B < A <= 10^6), representing respectively the cost of swapping two stones and the value of the refund when swapping adjacent stones. The second line contains a non-empty string S of at most 5000 characters. The i-th character of S indicates the color of the i-th stone, from left to right, in the initial arrangement of the stones. The character is either the uppercase letter "B" or the uppercase letter "W", indicating respectively a black or a white stone.

Output specification

Output a line with an integer representing the minimum number of coins Shagga will have to pay Dolf in order to arrange the stones such that all the black ones are to the left of all the white ones.

Sample input

```
2 1
BWWB
```

Sample output

2

Hint(s)

Sample Input 2:
5 3
WBWWBWBWBWBBBWWBBB

Sample Output 2:
27

Sample Input 3:
1000000 0
W

Sample Output 3:
0

Source	2014 Caribbean Finals of the ACM-ICPC [Fidel I. Schaposnik Massolo]
Added by	**ymondelo20**
Addition date	2014-11-13
Time limit (ms)	90000
Test limit (ms)	6000
Memory limit (kb)	256000
Output limit (mb)	64
Size limit (bytes)	15000
Enabled languages	Bash C C# C++ Java Pascal Perl PHP Python Ruby Text