Color Stripe

A colored stripe is represented by a horizontal row of *n* square cells, each cell is pained one of *k* colors. Your task is to repaint the minimum number of cells so that no two neighbouring cells are of the same color. You can use any color from 1 to *k* to repaint the cells.

**Input**

The first input line contains two integers *n* and *k* (1 ≤ *n* ≤ 5·105; 2 ≤ *k* ≤ 26). The second line contains *n* uppercase English letters. Letter "A" stands for the first color, letter "B" stands for the second color and so on. The first *k* English letters may be used. Each letter represents the color of the corresponding cell of the stripe.

**Output**

Print a single integer — the required minimum number of repaintings. In the second line print any possible variant of the repainted stripe.

**Sample test(s)**

**input**

6 3  
ABBACC

**output**

2  
ABCACA

**input**

3 2  
BBB

**output**

1  
BAB