

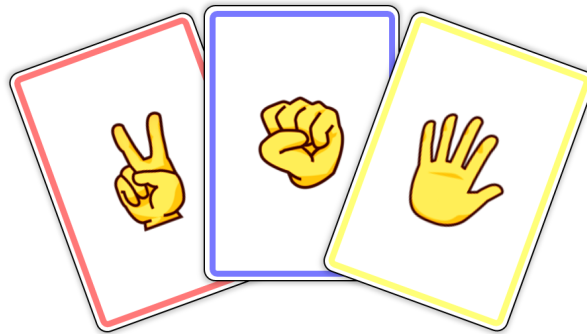
RPS Bubble Sort

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 1024 megabytes

Yihwan is a 5-year-old genius who enjoys rock-paper-scissors. He wanted to play rock-paper-scissors alone at his house, so he showed his creativity and made a game using some cards.

Yihwan places N cards, each with one of scissors, rock, or paper, on positions $1, 2, \dots, N$. Then, for each of $i = 1, 2, \dots, N - 1$ in increasing order, Yihwan swaps the card at positions i and $i + 1$ if the card in the i -th position beats the card in the $i + 1$ -th position. As the process of the game is similar to bubble sort, Yihwan named this game 'Rock-paper-scissors Bubble Sort'. The win-lose relationship of the cards is as follows:

- A card with scissors beats a card with paper.
- A card with paper beats a card with rock.
- A card with rock beats a card with scissors.



Yihwan is very good at calculating, so he played this game T times and went to sleep. However, while Yihwan was sleeping, the cards were accidentally shuffled. Fortunately, since Yihwan is a genius with excellent memory, he remembered the arrangement of the initial cards before the game. However, he couldn't remember the final arrangement of cards after T games and now needs your help.

Please help Yihwan by restoring the final arrangement of cards after playing the game T times.

Input

The first line contains two integers denoting the number of cards N ($2 \leq N \leq 500\,000$) and the number of times T ($1 \leq T \leq 1\,000\,000\,000$) Yihwan played the game.

The second line contains a string of length N . The i -th character indicates the type of card placed at the i -th position. A card with rock is **R**, a card with scissors is **S**, and a card with paper is **P**.

Output

Output the string of length N after playing the game T times.

Examples

standard input	standard output
5 1 RSPSP	SRPPS
10 3 RSRRRRRRSR	SRRRRSRRRR