F - ColoringBalls

Editorial (/contests/arc089/tasks/arc089_d/editorial)

Time Limit: 4 sec / Memory Limit: 256 MB

Score : 1100 points

Problem Statement

There are N white balls arranged in a row, numbered $1, 2, \ldots, N$ from left to right. AtCoDeer the deer is thinking of painting some of these balls red and blue, while leaving some of them white.

You are given a string s of length K. AtCoDeer performs the following operation for each i from 1 through K in order:

- The i-th operation: Choose a contiguous segment of balls (**possibly empty**), and paint these balls red if the i-th character in s is `'r'`; paint them blue if the character is `'b'`.

Here, if a ball which is already painted is again painted, the color of the ball will be overwritten. However, due to the properties of dyes, **it is not possible to paint a white, unpainted ball directly in blue.** That is, when the i-th character in s is `'b'`, the chosen segment must not contain a white ball.

After all the operations, how many different sequences of colors of the balls are possible? Since the count can be large, find it modulo $10^9 + 7$.

Constraints

- $1 \leq N \leq 70$
- $1 \leq K \leq 70$

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- $|s| = K$
- s consists of `r` and `b`.
- N and K are integers.

Input

Input is given from Standard Input in the following format:

```
N K
s
```

Output

Print the number of the different possible sequences of colors of the balls after all the operations, modulo $10^9 + 7$.

Sample Input 1 Copy

```
2 2
rb
```

Sample Output 1 Copy

```
9
```

There are nine possible sequences of colors of the balls, as follows:

`ww`, `wr`, `rw`, `rr`, `wb`, `bw`, `bb`, `rb`, `br`.

Here, `r` represents red, `b` represents blue and `w` represents white.

Sample Input 2 Copy

```
5 2
br
```

Sample Output 2 Copy

```
16
```

Since we cannot directly paint white balls in blue, we can only choose an empty segment in the first operation.

Sample Input 3 Copy

```
7 4
rbrb
```

Copy

Sample Output 3 Copy

```
1569
```

Copy

Sample Input 4 Copy

```
70 70
bbrbrrbbrrbbbbrbbrbrrbbrrbbrbrrbrbrbbbbrbbrbrrbbrrbbbbrbbrbrrbbrrbbbbr
```

Copy

Sample Output 4 Copy

```
841634130
```

Copy

/#telegram)

turl=https%3A%2F%2Fatcoder.jp%2Fcontests%2Farc089%2Ftasks%2Farc089_d%3Flang%3Den&title=F%20-

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