DMOPC '19 Contest 3 P2 - Generating Names

Time limit: 1.0s **Memory limit:** 64M

Veshy is trying to come up with a username for his new alt-account! Unfortunately, he is currently in a creative lull, so he has turned to permuting strings of lowercase letters of length N to find a username. This was still not creative enough for Veshy, so he is currently trying to increase the number of potential candidate usernames by having K wildcard characters (`*`) in his starting string before permuting. Since you are Veshy's absolute best friend, help him find the number of candidate usernames!

Constraints

For all subtasks:

$1 \leq N \leq 15$

$0 \leq K \leq 2$

Subtask 1 [10%]

$N \leq 5$

Subtask 2 [10%]

$K = 0$

Subtask 3 [20%]

$K = 1$

Subtask 4 [60%]

No additional constraints.

Input Specification

The first line will have 2 space-separated integers, N and K. The following line will have a string composed of only lowercase alphabet characters and/or the character `*`. There will be K `*`'s in the string.

Output Specification

Output the total number of possible permutations of the string.

Sample Input 1

```
2 1
b*
```

Sample Output 1

```
51
```

Explanation of Sample Output 1

There are 26 different possibilities for the wildcard character. Out of these 26 possibilities, 25 result in 2 unique permutations (e.g. `ba` → `ba` and `ab`, `bc` → `bc` and `cb`, etc.), and 1 results in only 1 unique permutation (when the wildcard character is `b`, to make `bb`). $2 \times 25 + 1 = 51$.

Sample Input 2

```
2 2
**
```

Sample Output 2

```
676
```