Repeated String ★

Problem Submissions Leaderboard Editorial

There is a string, s, of lowercase English letters that is repeated infinitely many times. Given an integer, n, find and print the number of letter a's in the first n letters of the infinite string.

Example

$s = \text{'abcac'}$

$n = 10$

The substring we consider is $abcacabcac$, the first 10 characters of the infinite string. There are 4 occurrences of a in the substring.

Function Description

Complete the repeatedString function in the editor below.

repeatedString has the following parameter(s):

- s: a string to repeat
- n: the number of characters to consider

Returns

- int: the frequency of a in the substring

Input Format

The first line contains a single string, s.

The second line contains an integer, n.

Constraints

- $1 \leq |s| \leq 100$
- $1 \leq n \leq 10^{12}$
- For 25% of the test cases, $n \leq 10^6$.

Sample Input

Sample Input 0

```
aba
10
```

Sample Output 0

```
7
```

Explanation 0

The first $n = 10$ letters of the infinite string are abaabaabaa. Because there are 7 a's, we return 7.

Sample Input 1

```
a
1000000000000
```

Sample Output 1

```
1000000000000
```

Explanation 1

Because all of the first $n = 1000000000000$ letters of the infinite string are a, we return 1000000000000.

Change Theme JavaScript (Node.js)

```
23  function readLine() {
24      return inputString[currentLine++];
25  }
26
27  // Complete the repeatedString function below.
28  function repeatedString(s, n) {
29      let numberOfAs = 0;
30
31      if(n >= s.length) {
32          let ocurrencesOfA = [...s].filter(e => e === 'a').length;
33          numberOfAs = Math.floor(n/s.length) * ocurrencesOfA;
34      }
35
36      let tailStringLength = n % s.length;
37
38      for(let i = 0; i < tailStringLength; i++) {
39      if(s[i] == 'a') numberOfAs++;
40      }
41      return numberOfAs;
42  }
43
44  function main() {
45      const ws = fs.createWriteStream(process.env.OUTPUT_PATH);
46
```

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Upload Code as File Test against custom input Run Code Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0

Sample Test case 1

Input (stdin) Download

```
1  aba
2  10
```

Your Output (stdout)

```
1  7
```

Expected Output Download

```
1  7
```