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# Repeated String

 by **tunyash**

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Lilah has a string,  $s$ , of lowercase English letters that she repeated infinitely many times.

Given an integer,  $n$ , find and print the number of letter 'a's in the first  $n$  letters of Lilah's infinite string.

## 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,  $n \leq 10^6$ .

## Output Format

Print a single integer denoting the number of letter 'a's in the first  $n$  letters of the infinite string created by repeating  $s$  infinitely many times.

## 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 print 7 on a new line.

## 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 print 1000000000000 on a new line.

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Current Buffer (saved locally, editable)

C++14



```
1 #include <iostream>
2 #include <string>
3 #include <cmath>
4 typedef unsigned long long int uint64;
5
6 void repeatedAs(const std::string& str, const uint64& N)
7 {
8     const unsigned int Size = str.length();
9     if(N <= Size)
10     {
11         uint64 count = 0;
12         for(uint64 i = 0; i<=N; ++i)
13             if(str[i]=='a')
14                 ++count;
15         std::cout << count << std::endl;
16     }
17     else
18     {
19         uint64 count = 0;
20         for(unsigned int i = 0; i<=Size; ++i)
21             if(str[i]=='a')
22                 ++count;
23         long double times = static_cast<float>(N)/static_cast<float>(Size);
24         if(times == (N/Size))
25             std::cout << count*times << std::endl;
26         else
27         {
28             float timesDecimalPart = times-(N/Size);
29             int perSizeStr = N%Size;
30             count *= (N/Size);
31             for( int i = 0; i<perSizeStr; ++i)
32                 if(str[i]=='a')
33                     ++count;
34             //std::cout << count << " "<< perSizeStr << std::endl;
35             std::cout << count << std::endl;
36         }
37     }
38 }
39
40 int main()
41 {
42     std::string str; std::cin>> str;
43     uint64 N ; std::cin>>N;
44     repeatedAs(str,N);
45 }
```

```
45     return 0;  
46 }  
47
```

Line: 31 Col: 31

[Upload Code as File](#) ☐ Test against custom input

Run Code

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## Congrats, you solved this challenge!

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✓ Test Case #0  
✓ Test Case #3  
✓ Test Case #6  
✓ Test Case #9  
✓ Test Case #12  
✓ Test Case #15  
✓ Test Case #18  
✓ Test Case #21

✓ Test Case #1  
✓ Test Case #4  
✓ Test Case #7  
✓ Test Case #10  
✓ Test Case #13  
✓ Test Case #16  
✓ Test Case #19  
✓ Test Case #22

✓ Test Case #2  
✓ Test Case #5  
✓ Test Case #8  
✓ Test Case #11  
✓ Test Case #14  
✓ Test Case #17  
✓ Test Case #20

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