

# Problem A

## Testing 1 2 3

Problem ID: testing  
Time Limit: 3 seconds

“Testing, testing... 1, 2, 3. Is this thing on?”

### Input

Input consists of a single integer  $1 \leq a \leq 9$ .

### Output

Output a single line containing the text `Testing` followed by a count up to  $a$ . See the sample input and output for clarification. There should be exactly one space before each number. Do not print a space after the last number.

Sample Input	Sample Output
5	Testing 1 2 3 4 5

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# Problem B

## Detecting Overflow

Problem ID: overflow  
Time Limit: 1 second

Computer hardware represents integers as a fixed length “word”. For example, a “signed 32-bit integer” is an integer between  $-2^{31}$  and  $2^{31} - 1$ . When using such integers, arithmetic operations may go outside the range of representation.

For example, consider  $a = 2000000000$  and  $b = 1000000000$ . We have  $a, b \leq 2^{31} - 1$  but  $a + b > 2^{31} - 1$ . If  $a$  and  $b$  are represented as signed 32-bit integers, the result of the calculation  $a + b$  cannot be represented and, actually, the result is probably stored as a negative number! This effect is called `overflow`.

### Input

Input consists of just two integers  $a, b$  on a single line separated by a single space. You are guaranteed  $0 \leq a, b \leq 2^{31} - 1$ .

### Output

Output a single line. If  $a + b > 2^{31} - 1$ , then simply output the text `overflow`. Otherwise, output the value of  $a + b$ .

Sample Input	Sample Output
123 456	579

Sample Input	Sample Output
0 101	101

Sample Input	Sample Output
2000000000 1000000000	overflow

Sample Input	Sample Output
1073741824 1073741823	2147483647

Sample Input	Sample Output
1073741824 1073741824	overflow

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# Problem C

## Hot Potato

Problem ID: potato  
Time Limit: 3 seconds

Some children are playing Hot Potato. They are arranged a circle. The child that is initially holding the potato is numbered 0 and the remaining children are numbered 1 through  $n - 1$  as you go clockwise around the circle from 0.

They take turns passing the potato around the circle. Each child can pass the potato either to the child on their left or the child on their right.

Given a sequence of left/right passes, output which child ended up holding the potato.

### Input

Input consists of a single line containing an integer  $n$  and a string  $s$  consisting only of characters L (pass to the left) and R (pass to the right). Here,  $2 \leq n \leq 100$  is the number of children and the string is the sequence of passes made by the children. The length of  $s$  is between 1 and 1000.

There will be exactly one space between  $n$  and the start of  $s$ .

For example, if  $n = 5$  and  $s = \text{RRLLL}$  the potato will pass through the following sequence of children

$$0 \xrightarrow{\text{R}} 4 \xrightarrow{\text{R}} 3 \xrightarrow{\text{L}} 4 \xrightarrow{\text{L}} 0 \xrightarrow{\text{L}} 1.$$

### Output

Output consists of a single line with a single integer between 0 and  $n - 1$  indicating which child ended up with the potato.

Sample Input	Sample Output
5 RRLLL	1

Sample Input	Sample Output
2 LRRRR	1

Sample Input	Sample Output
7 LRRLRRLRLLLLLLLLLRRL	6

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