Chocolate 2

Problem Statement

Let us consider a rectangular bar of chocolate containing n times d chunks of chocolate. Each chunk can be uniquely identified by a pair of integers (i_1, i_2), where each coordinate i_1 indentifies the row of the chunk and i_2 identifies the column. i_1 can take values between 1 and n, inclusive, and i_2 can take values between 1 and d, inclusive. The chunk at the top left corner of the bar is identified by (1,1).

One wants to eat the whole bar using a very elaborate method. The principle is that when the chunk with coordinates (i_1,i_2) is selected to be eaten, all remaining chunks with coordinates (j_1, j_2) such that $j_1 >= i_1$ and $j_2 >= i_2$ are eaten at the same time. The question we ask is:

Given n and d, how many different ways of eating the whole bar are there?

Note: The timeouts have been increased by approximately 50% for this problem.

Input Format

The first line of input contains the integer n. The second line of input contains the integer d. Note that 1 <= n, d <= 100. Furthermore, n and d are chosen such that the maximum number of ways of eating the whole bar will never exceed 10^{138}.

Output Format

The output contains the answer followed by a newline character.

Sample Input

```
2
2
```

Sample Output

```
10
```

Explanation

Suppose that we label the chocolate bar chunks as follows:

```
|A|B|
|C|D|
```

In this bar, chunk A identified as (1,1), chunk B is identified as (1,2), chunk C is identified as (2,1), and chunk D is identified as (2,2).

There are ten ways this bar could be eaten:

1) A (with B, C, and D at the same time)

2) B (with D), and then A (with C)

3) B (with D), then C, then A

4) C (with D), then A (with B)

5) C (with D), then B, then A

6) D, then A (with B and C)

7) D, then C, and then A (with B)

8) D, then B, and then A (with C)

9) D, then C, then B, then A

10) D, then B, then C, then A

Note: Two other test cases are available if you click on the "Run Code" button.