

Problem Statement

This challenge is sponsored by the IEEE University Partnership Program.

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 identifies 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 $j_1 \geq i_1$ and $j_2 \geq i_2$ 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 $1 \leq n, d \leq 100$. 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.