# Chocolate 2

HackerRank

### 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.