

## Problem J5: $\pi$ -day

### Problem Description

You may know that March 14 is known as “ $\pi$ -day”, since 3.14 (which is the third month and fourteenth day) is a good approximation of  $\pi$ .

Mathematicians celebrate this day by eating pie.

Suppose that you have  $n$  pieces of pie, and  $k$  people who are lined up for pieces of pie. All  $n$  pieces of pie will be given out. Each person will get at least one piece of pie, but mathematicians are a bit greedy at times. So, they always get at least as many of pieces of pie as the person in front of them.

For example, if you have 8 pieces of pie and 4 people in line, you could give out pieces of pie in the following five ways (with the first person in line being the first number in the list):  $[1, 1, 1, 5]$ ,  $[1, 1, 2, 4]$ ,  $[1, 1, 3, 3]$ ,  $[1, 2, 2, 3]$ ,  $[2, 2, 2, 2]$ .

Notice that if  $k = n$ , there is only one way to give out the pieces of pie: every person gets exactly one piece. Also, if  $k = 1$ , there is only one way to give out the pieces of pie: that single person gets all the pieces.

Write a program that determines the number of ways that the pieces of pie can be given out.

### Input Specification

The first line of input is the integer number of pieces of pie,  $n$  ( $1 \leq n \leq 250$ ).

The second line of input is the integer  $k$  which is the number of people in line ( $1 \leq k \leq n$ ).

For at least 20% of the marks for this problem,  $n \leq 9$ . For at least 50% of the marks for this problem,  $n \leq 70$ . For at least 85% of the marks for this problem,  $n \leq 120$ .

### Output Specification

The output will consist of a single integer which is the number of ways that the pieces of pie can be distributed. The output is guaranteed to be less than  $2^{31}$ .

### Sample Input 1

8  
4

### Output for Sample Input 1

5

### Sample Input 2

6  
2

### Output for Sample Input 2

3