Bar-Code

Time limit: 1 sec

A barcode consists of black and white vertical lines in different arrangement. For simplicity, we use a string of "0" and "1" to identify a barcode such that "0" represents a black line while "1" represents a white line. For example, 0100011 represents the barcode in fig. 1.

Fig. 1: Barcode example

A barcode is designed to be robust to error thus it has to follow some specific rules:

1) A barcode must consists of exactly **N** lines
2) There can be no more than **M** consecutive lines of same color. For example, when **M**=3, the barcode "01100001" is illegal because it consists of four consecutive white lines. However, 1001100 is legal.
3) We define "color changing" as follows. Color changing occurs when two consecutive lines have different colors. For example, 1001100 has 3 color changing. A barcode must have exactly **K** color changing.
4) The first line is always a black line.

We interest in knowing the number of possible barcode with respect to given values of **N**, **M** and **K**.

Input

There are only one line contains 3 integers **N**, **M** and **K** where 1 <= **N,M** <= 30 and 0 <= **K** <= 30

Output

The output must contain exactly one line giving the number of possible barcodes.

Example

Input	Output
4 3 1	3
5 2 2	3
7 9 4	15