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Junior Group

Task B3. TABLE

Let N be a positive integer. Integers 1, 2, 3, ..., $2N$ are divided into three sets *A*, *B* and *C*. Write a program **`table`**, which calculates the number of ways to fill the table with two rows and N columns so that:

- Each cell of the table contains a single integer;
- The integers of the set *A* should be written on the first row of the table;
- The integers of the set *B* should be written on the second row of the table;
- The integers of the set *C* can be written on any table row;
- The numbers in each row of the table should form an increasing sequence;
- The numbers in each column of the table should form an increasing sequence.

For example, if $N = 4$, $A = \{2, 3\}$, $B = \{4, 7, 8\}$ and $C = \{1, 5, 6\}$, then there are exactly two tables of required type.

1	2	3	5
4	6	7	8

1	2	3	6
4	5	7	8

Input

On the first row of the standard input is given the integer N ($1 < N \leq 35$). On the second row are given M – the number of integers of the set A, and integers of the set A ($0 \leq M \leq N$). On the third row are given K – the number of integers of the set B, and integers of the set B ($0 \leq K \leq N$).

Output

The program should print on the standard output a single line holding the result.

Example

Input

```
4
2 3 2
3 4 8 7
```

Output

```
2
```