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
```

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
```