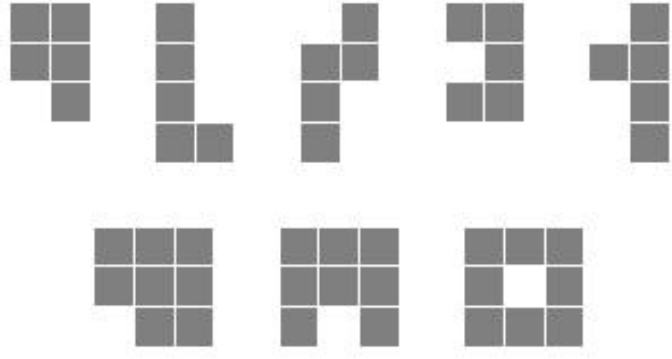
Lattice animal is a set of connected sites on a lattice. Lattice animals on a square lattice are especially popular subject of study and are also known as *polyominoes*. Polyomino is usually represented as a set of sidewise connected squares. Polyomino with n squares is called n-polyomino.

In this problem you are to find a number of distinct *free* n-polyominoes that fit into rectangle $w \times h$. Free polyominoes can be rotated and flipped over, so that their rotations and mirror images are considered to be the same.

For example, there are 5 different pentominoes (5-polyominoes) that fit into 2×4 rectangle and 3 different octominoes (8-polyominoes) that fit into 3×3 rectangle.



Input

The input file contains several test cases, one per line. This line consists of 3 integer numbers n, w, and h ($1 \le n \le 10$, $1 \le w, h \le n$).

Output

For each one of the test cases, write to the output file a single line with a integer number — the number of distinct free n-polyominoes that fit into rectangle $w \times h$.

Sample Input

```
5 1 4
5 2 4
5 3 4
5 5 5
8 3 3
```

Sample Output

```
0
5
11
12
3
```