

Sums Decompositions

For any number N , it is possible to decompose N as the sum of one or more positive numbers.

The order of the numbers doesn't matter.

You have to compute the number M of decompositions for each number N .

Input

The first line of input contains an integer T , the number of testcases ($T < 20$). T testcases follow.

Each testcase consists of a single integer N ($1 \leq N \leq 120$)

Output

For each testcase you have to output a single line containing the answer for the task.

Example

Input:

2
2
5

Output:

2
7

Decompositions for the second testcase:

5, 4+1, 3+2, 3+1+1, 2+2+1, 2+1+1+1, 1+1+1+1+1