

Total number of Strings

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Given 3 characters a, b, c. Find the number of strings of length n that can be formed from these 3 characters. Given that : we can use 'a' as many times as we want, 'b' maximum once, and 'c' maximum twice.

Input:

The first line of input contains an integer **T** denoting the number of test cases. The first and last line of each test case consists of an integer **n**.

Output:

Print the total number of string that can be formed.

Constraints:

$1 \leq T \leq 20$

$1 \leq N \leq 20$

Example:

Input:

2
3
5

Output:

19
71