

I am sure about your interest with combinations. Why not put yourself into a test to see your flair?

So here is the problem: You are given an integer n (less than 999). You have to evaluate the expression given at right. Hope to see you successful with this. You should count any term as zero which has $k < j$.

$$\sum_{\substack{i=1 \\ k=-\infty \\ k=n}}^{\infty} \sum_{1 \leq j \leq i}^k C_j$$

Input

The first line of input is an integer $t (< 2000)$. Then follows t lines each of which contain n as described before.

Output

There should be one line of output for each input which will be the value of the above expression for the corresponding n .

Sample Input

2
3
4

Sample Output

7
14