Problem L: Bus

A bus with n passengers opens its door at the bus stop. Exactly half of its passengers and an additional half of a passenger get out. On the next stop, again, half of the passengers plus half of a passenger leave the bus. This goes on for k stops in total. Knowing that the bus leaves the last stop empty, and that no one was hurt during the trip, determine the initial number n of people in the bus.

Input

The first line of input contains the number of test cases T. The descriptions of the test cases follow:

The only line of each test case contains the number of stops k, $1 \leqslant k \leqslant 30$.

Output

For each test case, output a single line containing a single integer – the initial number of bus passengers.

Example

For an example input	the correct answer is:
2 1 3	1 7