HELP 3.0

Description

　　This time you will be helping Albert. He wants to join a programming competition because he got nothing to do. Before joining the competition, he did some practicing by doing a few questions of his friend's programming homework. There were 5 questions that he wanted to do, and he successfully finished doing 4 of the questions but he just couldn't solve the last question.

　　The question was about math, more specifically it is about sequence. Sequence is actually an easy material, but Albert never understands anything about sequence, which is why he can't solve this one problem. The sequence is like this:

$$0\ 0\ 1\ 1\ 2\ 4\ 7\ ..\ ..\ ..\ 68\ 112\ 180\ 292\ \ \ldots$$

　　As Albert's new best friend, you decided to help him solve this problem. Make a program that uses recursion to find the **n**th value of the sequence.

Constraints

　　$0 < t <= 50$
　　$0 < n <$ always fits for int datatype

Input

　　The first line will be **t** which is how many numbers there will be. The next t line will be **n** which is how long the sequence is.

Output

　　For every test case, there will be an output which is the nth value of the sequence

Example

input
3 1 7 12
output
0 7 112

Good luck ＼(＾▽＾)／