Seating Arrangements

Filename: seating

You and your significant other enjoy going to the movies with your other couple friends. However, you've noticed that if any couple sits adjacent to each other, the corresponding public display of affection is not necessarily savory for the rest of the group. Thus, you want to ensure that whenever you go to the movies with your group of couple friends, the seating arrangements are such that no two couples are sitting next to each other but everyone is in one contiguous segment of seats, on a single row. To prove to the others that this is a good idea, you've decided to count the number of possible sets of seats the couples can arrange themselves adhering to this restriction. (You hope that by showing them that there are plenty of valid arrangements with the new restriction, the other couples will go along with your rule.)

For the purposes of this problem, the couples are indistinguishable from each other, as are the two members of each couple. Assume the seats are numbered 1, 2, ..., 2*n*, from left to right, where *n* is in the number of couples attending the movie. For example, if there are two couples, only one possible set of seats works: (1, 3), (2, 4). (Thus, we're NOT counting an arrangement where the couple in seats 1 and 3 swaps with the couple in seats 2 and 4, AND we're not counting differently if the couple themselves swap seats.) If there are three couples, the following five sets of seats works:

(1, 3), (2, 5), (4, 6)
(1, 4), (2, 5), (3, 6)
(1, 4), (2, 6), (3, 5)
(1, 5), (2, 4), (3, 6)
(1, 6), (2, 4), (3, 5)

The Problem

Given the number of couples attending a movie, determine the number of sets of seating arrangements on a contiguous segment of a single row that are valid such that no two couples are sitting next to one another.

The Input

The first line of the input file will contain a single positive integer, *n* ($n \leq 9$), representing the number of input cases to consider. Each of the test cases will follow, one per line. Each test case will have a single positive integer, *c* ($c \leq 9$), on a line by itself.

The Output

For each test case, print out the number of valid seating arrangements for that case.

Sample Input	**Sample Output**
3	0
1	1
2	5
3	