Project Euler #28: Number spiral diagonals



This problem is a programming version of Problem 28 from projecteuler.net

Starting with the number 1 and moving to the right in a clockwise direction a 5 by 5 spiral is formed as follows:

It can be verified that the sum of the numbers on the diagonals is 101.

What is the sum of the numbers on the diagonals in a $N \times N$, (N is odd) spiral formed in the same way? As the sum will be huge you have to print the result mod (10^9+7)

Input Format

The first line contains an integer T , i.e., number of test cases. Next T lines will contain an integer N.

Constraints

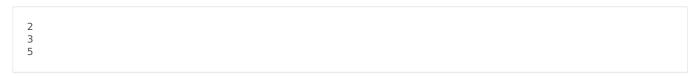
$$1 \le T \le 10^5$$

 $1 \le N < 10^{18}$, N is odd

Output Format

Print the values corresponding to each test case.

Sample Input



Sample Output

