Problem H - How Many More?

Daniel has a lot of pizzas he needs to put a very, very, very, very, very large table. The table can fit five pizzas, one in front of each other, and M pizzas fit side by side across the length of the table.

David is helping Daniel lay down the pizzas. Daniel says that no pizza should be right in front of another one, since you need to have some room for the lid once you open the pizza box. David says no pizzas should be adjacent to one another for aesthetic reasons, nor should any of the pizza boxes be in stacks.

David was wondering, how many ways are there of arranging the pizzas on the table if you model the table as a $5 \times M$ grid and only put pizzas on grid cells? You can use any number of pizzas in an arrangement. Since the number of possible ways can be very large just output the number modulo $10^9 + 7$.

Input

The first line contains a single integer, T specifying the number of test cases.

Each test case is a single integer $M (1 \leq M \leq 10^{18})$, indicating the length of the table.

Output

For each test case, ouput the number of arrangements of pizzas that satisfy David and Daniel's restrictions that no two pizzas should be adjacent horizontally or vertically on a $5 \times M$ table, modulo $10^9 + 7$.

Sample Input

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1
1
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Sample Output

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13
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