

Wet Shark and 42



As punishment for attacking Sunland, Wet Shark is now forced to walk on a line of numbered squares, starting from **1** and going to infinity. Wet Shark initially has a strength of S . To make the experience harder for Wet Shark, each square that has a label divisible by **4** and/or **2** but not divisible by **42** contains a black glob of jelly, stepping on which his strength decreases by **1**.

Wet Shark does not know that this line of squares is infinitely long, and he is determined to continue walking until his strength reaches **0**. Wet Shark walks from square to square, so he starts at square **1**, goes to square **2**, then **3**, then **4**, etc.

Wet Shark's punisher needs your help, and wants to compute where Wet Shark will stop in order to meet him there and punish him. Given Wet Shark's initial strength S , find the square on which Wet Shark's strength will reach **0**. Wet Shark can go far if defenses are not strong enough, so please output the answer modulo $10^9 + 7$. Wet Shark is curious, so he wants to know that given S strength initially, how far he will go for different values S . Help him figure out how long he can go without doom for each S .

Input Format

The first line of the input contains an integer T , the number of queries. The following lines describe the queries.

Each query consists of a line containing a single integer, which is the value of S .

Output Format

Print T lines, each line containing the answer for each query, i.e. the last square Wet Shark will reach before he runs out of strength, starting with a strength of S , modulo $10^9 + 7$.

Constraints

$$1 \leq T \leq 100$$

$$1 \leq S \leq 10^{18}$$

Sample Input

```
2
3
4
```

Sample Output

```
6
8
```

Explanation

Square 1: 3 strength
Square 2: 2 strength
Square 3: 2 strength
Square 4: 1 strength
Square 5: 1 strength
Square 6: 0 strength

Thus the answer is 6.