

TLE '16 Contest 8 P3 - Fool's Sequence

The special April contests have just ended, but the problem setters are still marveling over the yearly event.

For example, a Fool's number is an attractive positive integer. A Fool's number has the interesting property that, in its decimal representation, it is possible to insert spaces to form a series of 69's and 420's, without any other additional garbage.

A problem setter defines the Fool's sequence, which contains every Fool's number in strictly increasing order, with no additional terms that are not Fool's numbers (what is the fun if the x^{th} term is x ?). The first term is 69 and the second term is 420.

However, the sequence grows quite strangely, and it is hard to list the sequence! What is the n^{th} term of the Fool's sequence? Since there is no point in knowing just one term, you want to repeat this process T times in total.



A fool and his sequence.

Constraints

In all subtasks, $1 \leq T \leq 10\,000$.

Subtask	Points	n
1	5	$1 \leq n \leq 10$
2	15	$1 \leq n \leq 100$
3	40	$1 \leq n \leq 10\,000$
4	20	$1 \leq n \leq 10^7$
5	20	$1 \leq n \leq 10^{15}$

Input Format

The first line contains one integer, T .

The next T lines contain a single integer, n .

Output Format

Output the n^{th} term of the Fool's sequence on a new line.

Sample Input

```
2
3
5
```

Sample Output

```
6969
69420
```

Explanation For Sample Output

The first 6 terms of the Fool's sequence are:

69, 420, 6969, 42069, 69420, 420420

The 3^{rd} term of the sequence is 6969.

The 5^{th} term of the sequence is 69420.

[Red herring.](#)