Problem THEY: THEY

THEY are behind you. You do not know THEIR name, you do not know exactly, who THEY are, but you do know THEY are evil and THEY have to be stopped. THEY control most means of communications and THEY are able to kill you, if THEY find out that you are working against THEM.

You have some people that will help you in the battle, but you need to find a way to communicate. You agreed with your helpers on communicating via a morse-like code that you can transmit via some secret ways of communication. Each message has to fit exactly in a given time window. The code consists of long and short beeps. The long beeps take two units of time; the short beeps take just one. The break between two beeps is so short that you can ignore it. Additionally, you are not allowed to extend this break, i.e. you have to use every unit of the given time window either with a short beep, the first half of a long beep or the second half of a long beep. Now you need to know how many different messages you are able to express in a time window of a given length.

Input

Input consists of a series of test cases. The first line of input contains a positive number t ($1 \leq t \leq 1,000$), the number of test cases. Each test case consists of a single line that holds a positive integer l ($1 \leq l \leq 2^{23}$), that indicates the length of the time window.

Output

Output how many different messages can be formed using exactly l time units as described above. If there are more than 2^{42} messages possible you know THEY tricked you with false information and you have to write the word `tricked` on a single line instead.

Sample Input 1

```
3
3
1
123
```

Sample Output 1

```
3
1
tricked
```