A. FIB

The Fibonacci sequence is defined as follows: $F_0 = 1$, $F_1 = 1$, $F_n = F_{n-2} + F_{n-1}$. Some of the first terms of the Fibonacci sequence: 1; 1; 2; 3; 5; 8; 13; 21; 34; ...

Given a natural number n, count the number of ways to express it as a product of Fibonacci numbers (numbers in the expression must be greater than 1).

INPUT

The first line contains the number of tests ($1 \le t \le 50$). Each of the next t lines contains an integer n ($2 \le n \le 10^{18}$).

OUTPUT

For each test case, print on one line the number of ways to factor n into the product of Fibonacci numbers.

Sample Input	Sample Output
5 2 7 8 40 64	1 0 2 2 3

Example explanation:

- The number 2 can be expressed as a product of Fibonacci numbers uniquely as 2 = 2
- The number 7 cannot be represented as a product of Fibonacci numbers
- The number 8 can be represented in two ways: 8 = 2 × 2 × 2 and 8 = 8
- The number 40 can be represented in two ways: 40 = 2 × 2 × 2 × 5 and 40 = 5 × 8

A man is sitting at home when he hears someone knocking at the door
Knock
Knock
Knock knock
Knock knock knock
Knock knock knock knock knock
"Who's there?"
"Fibonacci"