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## A. Candies

time limit per test: 1 second  
 memory limit per test: 256 megabytes  
 input: standard input  
 output: standard output

Recently Vova found  $n$  candy wrappers. He remembers that he bought  $x$  candies during the first day,  $2x$  candies during the second day,  $4x$  candies during the third day,  $\dots$ ,  $2^{k-1}x$  candies during the  $k$ -th day. But there is an issue: Vova remembers neither  $x$  nor  $k$  but he is sure that  $x$  and  $k$  are positive integers and  $k > 1$ .

Vova will be satisfied if you tell him **any positive** integer  $x$  so there is an integer  $k > 1$  that  $x + 2x + 4x + \dots + 2^{k-1}x = n$ . It is guaranteed that at least one solution exists. **Note that  $k > 1$ .**

You have to answer  $t$  independent test cases.

### Input

The first line of the input contains one integer  $t$  ( $1 \leq t \leq 10^4$ ) — the number of test cases. Then  $t$  test cases follow.

The only line of the test case contains one integer  $n$  ( $3 \leq n \leq 10^9$ ) — the number of candy wrappers Vova found. It is guaranteed that there is some positive integer  $x$  and integer  $k > 1$  that  $x + 2x + 4x + \dots + 2^{k-1}x = n$ .

### Output

Print one integer — **any positive** integer value of  $x$  so there is an integer  $k > 1$  that  $x + 2x + 4x + \dots + 2^{k-1}x = n$ .

### Example

input	Copy
7 3 6 7 21 28 999999999 999999984	
output	Copy
1 2 1 7 4 333333333 333333328	

### Note

In the first test case of the example, one of the possible answers is  $x = 1, k = 2$ . Then  $1 \cdot 1 + 2 \cdot 1$  equals  $n = 3$ .

In the second test case of the example, one of the possible answers is  $x = 2, k = 2$ . Then  $1 \cdot 2 + 2 \cdot 2$  equals  $n = 6$ .

**Codeforces Round #636 (Div. 3)**
**Finished**

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In the third test case of the example, one of the possible answers is  $x = 1, k = 3$ . Then  $1 \cdot 1 + 2 \cdot 1 + 4 \cdot 1$  equals  $n = 7$ .

In the fourth test case of the example, one of the possible answers is  $x = 7, k = 2$ . Then  $1 \cdot 7 + 2 \cdot 7$  equals  $n = 21$ .

In the fifth test case of the example, one of the possible answers is  $x = 4, k = 3$ . Then  $1 \cdot 4 + 2 \cdot 4 + 4 \cdot 4$  equals  $n = 28$ .

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