

Given two positive integers  $n$ ,  $m$ , find out  $n!/m!$ , where  $n! = 1 * 2 * 3 * \dots * n$  ( $n \geq 1$ ).

For example, if  $n = 6$ ,  $m = 3$ ,  $6!/3! = 720/6 = 120$ .

Easy, right? Now let's do the reverse: given  $k = n!/m!$ , find out the pair  $(n, m)$  ( $n > m \geq 1$ ).

If there is more than one solution,  $n$  should be as small as possible. For example, if  $k = 120$ , the answer should be  $n = 5$  and  $m = 1$ , not  $n = 6$  and  $m = 3$ , because  $5!/1! = 6!/3! = 120$ , and  $5 < 6$ .

## Input

There will be at most 100 test cases. Each test case contains one integer  $k$  ( $1 \leq k \leq 10^9$ ).

## Output

For each test case, print two integers  $n$  and  $m$ . If there is no solution, print 'Impossible'. If there is more than one solution,  $n$  should be as small as possible.

## Sample Input

```
120
1
210
```

## Sample Output

```
Case 1: 5 1
Case 2: Impossible
Case 3: 7 4
```