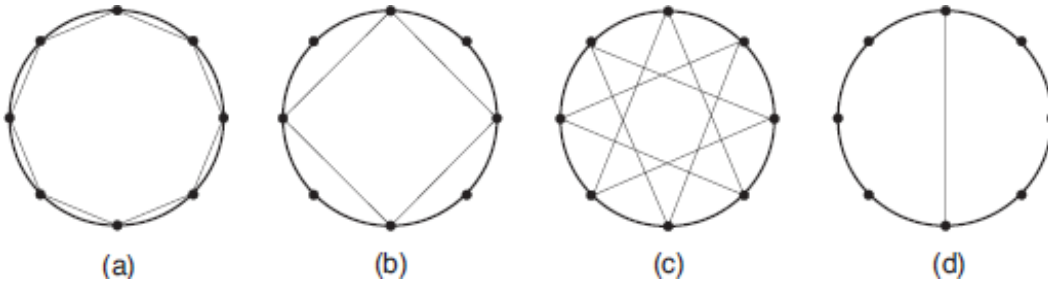


# Star

Fernando won a compass for his birthday, and now his favorite hobby is drawing stars: first, he marks  $N$  points on a circumference, dividing it into  $N$  equal arcs; then, he connects each point to the  $k$ -th next point, until returning to the first point.

Depending on the value of  $k$ , Fernando may or may not reach all points marked on the circumference; when that happens, the star is called complete. For example, when  $N = 8$ , the possible stars are shown in the figure below. Stars (a) and (c) are complete, while stars (b) and (d) are not.



Depending on the value of  $N$ , it may be possible to draw many different stars; Fernando asked you to write a program that, given  $N$ , determines the number of complete stars he can draw.

## Input

The input contains several test cases. Each test case contains a single line, containing a single integer  $N$  ( $3 \leq N < 2^{31}$ ), indicating the number of arcs in which the circumference was divided.

## Output

For each test case, your program must print a single line containing a single integer, indicating the number of complete stars that can be drawn.

## Example

**Input:**

3  
4  
5  
18  
36  
360  
2147483647

**Output:**

1  
1  
2  
3  
6  
48

