D. New Year and the Sphere Transmission

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

There are n people sitting in a circle, numbered from 1 to n in the order in which they are seated. That is, for all i from 1 to $n-1$, the people with id i and $i+1$ are adjacent. People with id n and 1 are adjacent as well.

The person with id 1 initially has a ball. He picks a positive integer k at most n, and passes the ball to his k-th neighbour in the direction of increasing ids, that person passes the ball to his k-th neighbour in the same direction, and so on until the person with the id 1 gets the ball back. When he gets it back, people do not pass the ball any more.

For instance, if $n = 6$ and $k = 4$, the ball is passed in order $[1, 5, 3, 1]$.

Consider the set of all people that touched the ball. The **fun value** of the game is the sum of the ids of people that touched it. In the above example, the *fun value* would be $1 + 5 + 3 = 9$.

Find and report the set of possible *fun values* for all choices of positive integer k. It can be shown that under the constraints of the problem, the ball always gets back to the 1-st player after finitely many steps, and there are no more than 10^5 possible *fun values* for given n.

Input

The only line consists of a single integer n ($2 \le n \le 10^9$) — the number of people playing with the ball.

Output

Suppose the set of all *fun values* is $f_1, f_2, \ldots, f_m$.

Output a single line containing m space separated integers f_1 through f_m in **increasing** order.

Examples

input	Copy
6	

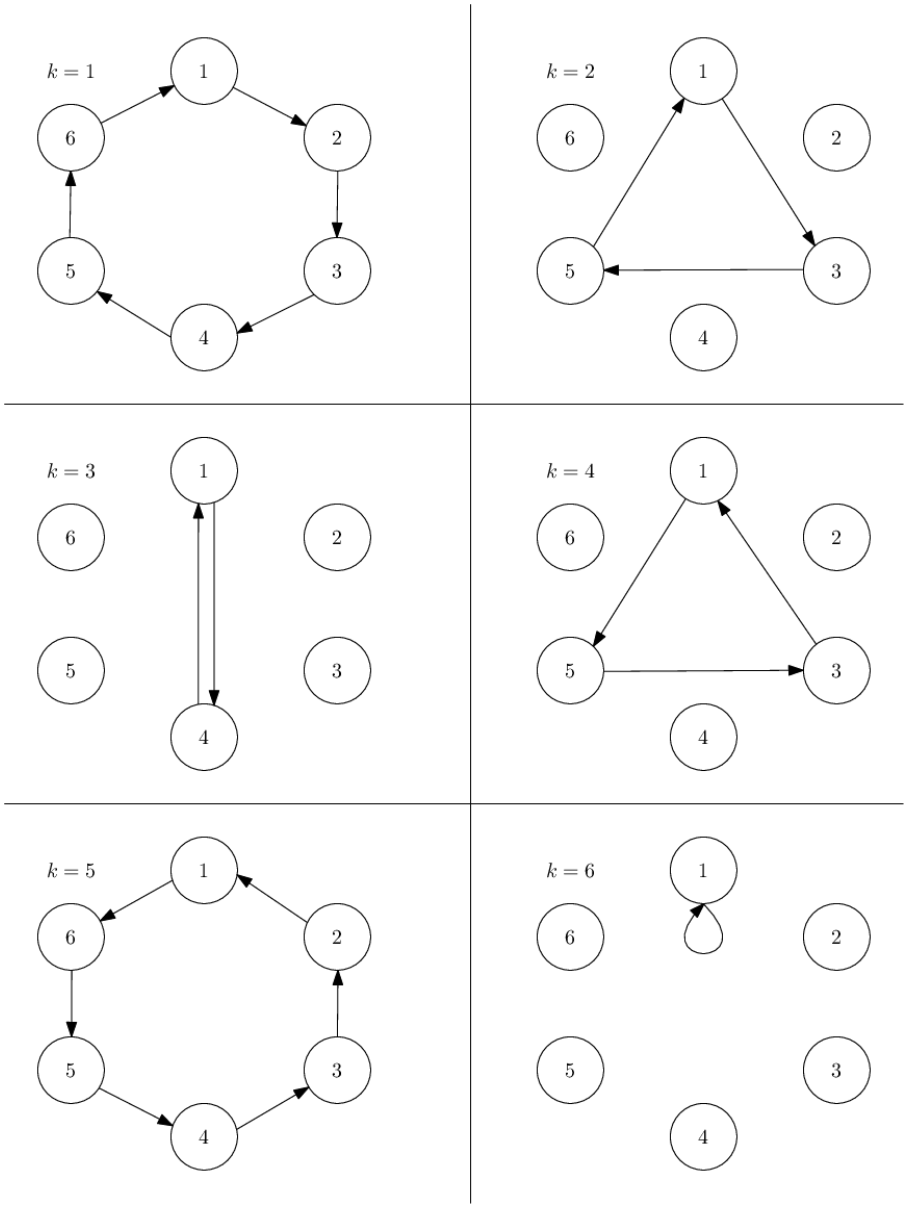
output	Copy
1 5 9 21	

input	Copy
16	

output	Copy
1 10 28 64 136	

Note

In the first sample, we've already shown that picking $k = 4$ yields *fun value* 9, as does $k = 2$. Picking $k = 6$ results in *fun value* of 1. For $k = 3$ we get *fun value* 5 and with $k = 1$ or $k = 5$ we get 21.



In the second sample, the values 1, 10, 28, 64 and 136 are achieved for instance for $k = 16$, 8, 4, 10 and 11, respectively.