The Kirakira Cycle

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

Your imaginary girlfriend who is a genius at math (that is why she is studying at your university though she is much younger) tells you that she is recently working on the following function:

$$f_n(x) = \sum_{i=1}^{n} (x \mod i)$$

in which n is a fixed positive integer.

You quickly realize that this function actually defines a graph in the sense that all the integers are vertices and there is an directed edge for every x from x to $f_n(x)$.

Your imaginary girlfriend seems to be interested in the cycles in such a graph, as she called them the **kira cycles**.

In order to please your imaginary girlfriend, you decided to find out the length of the **kirakira cycle**, that is, the largest cycle in this graph.

Input

The first line contains a single integer n ($1 \leq n \leq 10^4$), the constant described above.

Output

Print a single integer l, the length of the **kirakira cycle**.

Examples

standard input	standard output
2	1
10	4
43	7