WunderBaum (wunderbaum)

The WunderBaum is a miracle plant that senses the alternation of day and night. Throughout its life, it grows leaves every day depending on how many days ago it was planted outdoors.

Figure 1: A three day old WunderBaum originally planted outdoors.

On even days, it produces two new leaves, and on days divisible by three, the number of leaves increases by three. On all other days, it produces one leaf. It wants to be as big as possible, so it always grows according to the most favorable growth rule. We know it already had L leaves when we planted it outdoors N days ago. Determine the number of leaves it has today.

☞ Among the attachments of this task you may find a template file `wunderbaum.*` with a sample incomplete implementation.

Input

The input file consists of:

- a line containing integers L, N, the number of leaves when planted and the number of days since planting, respectively.

Output

The output file must contain a single line consisting of a single integer, the number of leaves the WunderBaum has after N days.

Constraints

- $0 \leq L \leq 100\,000\,000$.
- $1 \leq N \leq 100\,000\,000$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (20 points) $N \leq 5$ and $L = 0$.

– **Subtask 3** (20 points) $N \leq 5$.

– **Subtask 4** (30 points) $N \leq 1000$.

– **Subtask 5** (30 points) No additional limitations.

Examples

input	output
10 6	22
3 15	33

Explanation

In the **first sample case**, it grows 1, 2, 3, 2, 1 and 3 leaves on the first six days, in addition to the initial number of leaves, for a total of $10 + 12 = 22$ leaves.

In the **second sample case**, it grows 1 leaf on days 1, 5, 7, 11 and 13; 2 leaves on days 2, 4, 8, 10 and 14; and 3 leaves on the rest, for a total of 33 leaves.