Coins
Problem ID: coins

You have been challenged by the infamous magician Zhivago to his signature coin game! The game starts off with a pile of n coins, where you and Zhivago will each take turns grabbing coins from the pile, and the loser is the one that grabs the last coin. Each player has to take 1, 2 or 3 coins each turn; no more, no less!

Zhivago is a master in his own game, and will always play optimally. However, you have been informed that you are in a winning position, and can best Zhivago to become the coin game champion. Can you do it?

CC0, via Hippopx

Interaction

First, your program should read a single integer $1 \leq n < 1000$, the number of coins in the pile at the start of the game. Then, we repeat the following process:

- Your program writes a single line to the standard output, in the form of an integer 1, 2 or 3 that represents the move you make.
- After you have made your move, then your program should read a single integer $c \in \{1, 2, 3\}$ representing how many coins Zhivago takes on his turn.
- If there is only a single coin left for Zhivago, he will output the string "`I give up`" instead. At this point your program should terminate.

After making each move, do not forget to **flush** the output. To do this, use:

- `fflush(stdout)` or `cout.flush()` in C++;
- `System.out.flush()` in Java;
- `stdout.flush()` or `print(output, flush=True)` in Python;
- see documentation for other languages.

Sample game

Your output	*Zhivago output*	*Interpretation*
	`7`	There are $n = 7$ coins as the starting amount in the pile.
`2`	`1`	You take 2 coins and Zhivago responds by taking 1 coin.
`3`	`I give up`	You take 3 coins. Since there is only 1 coin left, Zhivago gives up.