Problem A. Easy Querys

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

Ayoub loves stacks, so he decided to write some problems on the stack.

in this problem, Ayoub wants to ask you N queries of 3 types :

1. First type he asks you to add integer X to the end of the stack.

2. Second type he asks you to delete the last element of the stack if the stack is not empty.

3. Third type he asks you to print the last element of the stack if it is not empty.

Input

First line contains integer N, $(1 \leq N \leq 10^5)$

Next N lines represent queries information, and it is contains int Q, $(1 \leq Q \leq 3)$ represents the i-th query type:

If the i-th query is of first type, you have to read integer X $(1 \leq X \leq 10^6)$

Output

For each Query of type 3 print the last element of the stack, if the stack is empty print ":(" without quotes

Examples

standard input	standard output
5 1 2 1 4 1 3 3 2	3
10 1 3 1 2 3 2 2 2 3 1 5 1 2 1 4	2 :(