ASTU ICPC CLUB

Stack Simulation

Time limit: 5 sec.

Memory limit: 64MB

Description

You know stack? Now it's time to implement one.

You will be given q queries about stack. There are 3 types of query.

- Type 1(Push): Given an integer v, "push" the integer to the stack.
- Type 2(Pop): "pop" out one integer from the stack. If the stack was empty, do nothing instead.
- Type 3(Top): Print the integer at the "top" of the stack. If the stack was empty, print "EMPTY" instead. Note that this query does not modify the elements of the stack.

Input

The first line of the input contains a single integer q, the number of queries. (1 <= q <= 100000)

The i-th line of the next q line of the input consists of the following:

- The first integer of the line is t_i, the type of the ith query. (t_i = 1 or 2 or 3).
- If t_i = 1, another integer v_i will be given in the line, separated by whitespace. (-10^9 <= v_i <= 10^9)

It is guaranteed that there is at least one query of type 3.

Output

For every query of type 3, print the appropriate integer or string as stated on the description section, in a new line.

Sample I/O

Input(s)	Output(s)
13 1 12 1 23 1 34 2 3 2 3 3 2 2 3 1 45 3	23 12 12 EMPTY 45