QHEAP1

This question is designed to help you get a better understanding of *basic heap* operations.
You will be given queries of 3 types:

- "$1\ v$" - Add an element v to the heap.
- "$2\ v$" - Delete the element v from the heap.
- "3" - Print the minimum of all the elements in the heap.

***NOTE**: It is guaranteed that the element to be deleted will be there in the heap. Also, at any instant, only distinct elements will be in the heap.*

Input Format

The first line contains the number of queries, Q.
Each of the next Q lines contains a single query of any one of the 3 above mentioned types.

Constraints
$1 \leq Q \leq 10^5$
$-10^9 \leq v \leq 10^9$

Output Format

For each query of type 3, print the minimum value on a single line.

Sample Input

```
5
1 4
1 9
3
2 4
3
```

Sample Output

```
4
9
```

Explanation

After the first 2 queries, the heap contains $\{4, 9\}$. Printing the minimum gives 4 as the output. Then, the 4^{th} query deletes 4 from the heap, and the 5^{th} query gives 9 as the output.