

This question is designed to help you get a better understanding of *basic heap* operations.

There are **3** types of query:

- "**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 one of the **3** types of query.

**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**

STDIN	Function
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5	Q = 5
1 4	insert 4
1 9	insert 9
3	print minimum
2 4	delete 4
3	print minimum

**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<sup>th</sup>** query deletes **4** from the heap, and the **5<sup>th</sup>** query gives **9** as the output.