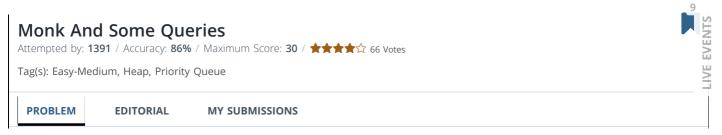


All Tracks > Data Structures > Trees > > Problem



Monk was asked to answer some queries in an interview. He is given an empty array A. Queries are of 4 types:-

- 1. 1 X Add number X to the array A.
- 2. 2 X Remove a single instance of number X from the array A. If not possible, print "-1" without the quotes.
- 3. 3 Find the maximum element in the array A.
- 4. 4 Find the minimum element in the array A.

## Input:

The first line contains the integer **Q**.

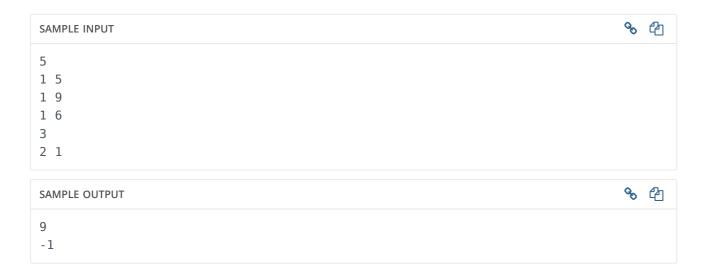
The next **Q** lines will each contain a query like the ones mentioned above.

For queries 3 and 4, print the answer in a new line. If the array is empty for query 3 and 4, then print "-1" without the quotes.

## **Constraints:**

1 <= **Q** <= 100000

1 <= X <= 100000



## **Explanation**

There are 5 queries.

Query 1 - 5 is added to the array.

Query 2 - 9 is added to the array.

Query 3 - 6 is added to the array.

Query 4 - The maximum element in the array is 9.

Query 5 - Since there is no element in the array with value 1, so the output is -1.

Time Limit: 1,0 sec(s) for each input file. **Memory Limit:** 256 MB **Source Limit:** 1024 KB **Marking Scheme:** Marks are awarded when all the testcases pass.

Allowed Languages: C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp