```
import java.io.*;
import java.util.*;

public class QHEAP1 {

    public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should
be named Solution. */
        PriorityQueue<Integer> myHeap = new PriorityQueue<Integer>();    // use priority queue
for min heap
        int Q, query, v;    // declare variables

        Scanner scan = new Scanner(System.in);    // scanner

        do {
            Q = scan.nextInt();                    // input number or queries
        }while(1 > Q || Q > Math.pow(10,5));     // constraints

        while(Q != 0) {                    // loop until queries are complete

            query = scan.nextInt();        // user input query ID

            switch (query) {    // switch statement to execute indicated query
                case 1:
                    do {
                        v = scan.nextInt();        // user input of element v
                    }while(Math.pow(-10,9) > v || v > Math.pow(10, 9));    // constraints
                    myHeap.add(v);        // add an element v to the heap
                    break;

                case 2:
                    do {
                        v = scan.nextInt();        // user input of element v
                    }while(Math.pow(-10,9) > v || v > Math.pow(10, 9));    // constraints
                    myHeap.remove(v);    // delete the element v from the heap
                    break;

                case 3:
                    System.out.println(myHeap.peek());    // print minimum of all the elements in the
heap
                    break;
            }
                Q--;    // current query complete

            }
    }
}
```