

Implement a minimum stack data structure. The structure should support the following types of operations: add a number to the top of the stack, remove the number from the top of the stack and print the minimum number on the stack. The stack is initially empty.

The first line of the input contains an integer q - the number of operations with the stack ($1 \leq q \leq 10^6$).

Each of the following q lines contains a description of the stack operation:

- **push** x – add an integer x to the top of the stack ($0 \leq x \leq 10^9$)
- **pop** – delete the number lying on the top of the stack. It is guaranteed that the stack is not empty
- **min** – print the minimum number on the stack. It is guaranteed that the stack is not empty

For each min operation, output the minimum number on the stack.

Sample input:

```
7
push 3
push 2
min
pop
min
push 1
min
```

Sample output:

```
2
3
1
```