Problem H1401
Bakery

A bakery is selling circular bread with different radius, but in same price! Therefore, the customer will always pick the largest bread if the largest is large enough. If there is no bread or the bread is smaller than the customer's needs, the customer won't buy the bread. In addition, the baker will also make new bread at some time.

You have the schedule of these n events in 3 types:

Type 1: the customer requests for a bread with radius at least r.

Type 2: the baker make a new bread with radius r.

You would like to know the radius of bread bought by each customer.

Input

The first line contains two integers $n(1 \leq n \leq 2 \cdot 10^5)$.

The following contains events of the following 2 types:

1 r: a customer would like to buy a bread with radius at least $r(1 \leq r \leq 10^5)$.

2 r: the baker make a new bread with radius $r(1 \leq r \leq 10^5)$.

The event is in time order.

Output

Print the radius of bread bought by each customer for events type 1. In the case that the customer buy nothing, print "-1".

Sample Input

```
8
2 2
2 3
2 1
1 2
1 2
1 2
2 2
1 1
```

Sample Output

```
3
2
-1
2
```