

Statement

Implement and operate a queue according to input. There are two operations to be implemented.

1. Enqueue
2. Dequeue

Input

The first line contains an integer N , the number of operations that follow. The operations are formatted as given below

Enqueue $E\ x$ - enqueue x .

Dequeue D - dequeue an element.

Output

For each operation, the output should be as given below.

Enqueue Print the new size of the queue.

Dequeue Print two space-separated integers, the deleted element (1 if queue is empty) and the new size of the queue.

Constraints

- $1 \leq N \leq 100$
- $1 \leq x \leq 100$

Sample

Sample Input	Sample Output
5	1
E 2	2 0
D	1 0
D	1
E 3	3 0
D	