

6. 【團體佇列/Queue】

有 t ($1 \leq t \leq 1000$) 個團隊的人正在排一個長隊。每次新來一個人時，如果他有隊友在排隊，那麼這個新來的人會插隊到最後一個隊友的身後；如果沒有任何一個隊友排隊，則他會排到長隊的隊尾。

輸入每個團隊中所有隊員的編號，要求支援如下 3 種指令（前兩種指令可以穿插進行）。

- ◆ ENQUEUE x ：編號為 x 的人進入長隊。
- ◆ DEQUEUE：排在長隊首的人離開長隊。
- ◆ STOP：停止模擬。

對於每個 DEQUEUE 指令，輸出離開長隊的人的編號。(Page 5-20, **UVa540**)

輸入（註 1）：

```
2
3 101 102 103
3 201 202 203
ENQUEUE 101
ENQUEUE 201
ENQUEUE 102
ENQUEUE 202
ENQUEUE 103
ENQUEUE 203
DEQUEUE
DEQUEUE
DEQUEUE
DEQUEUE
DEQUEUE
DEQUEUE
STOP
2
5 259001 259002 259003 259004 259005
6 260001 260002 260003 260004 260005 260006
ENQUEUE 259001
ENQUEUE 260001
ENQUEUE 259002
ENQUEUE 259003
ENQUEUE 259004
ENQUEUE 259005
DEQUEUE
```

```
DEQUEUE
ENQUEUE 260002
ENQUEUE 260003
DEQUEUE
DEQUEUE
DEQUEUE
DEQUEUE
STOP
0
```

輸出（註2）：

```
Scenario #1
101
102
103
201
202
203
Scenario #2
259001
259002
259003
259004
259005
260001
```

（註1）

Input

The input file will contain one or more test cases. Each test case begins with the number of teams t ($1 \leq t \leq 1000$). Then t team descriptions follow, each one consisting of the number of elements belonging to the team and the elements themselves. Elements are integers in the range 0..999999. A team may consist of up to 1000 elements.

Finally, a list of commands follows. There are three different kinds of commands:

- ENQUEUE x — enter element x into the team queue
- DEQUEUE — process the first element and remove it from the queue
- STOP — end of test case

The input will be terminated by a value of 0 for t .

Warning: A test case may contain up to 200000 (two hundred thousand) commands, so the implementation of the team queue should be efficient: both enqueueing and dequeuing of an element should only take constant time.

(註 2)

Output

For each test case, first print a line saying 'Scenario # k ', where k is the number of the test case. Then, for each 'DEQUEUE' command, print the element which is dequeued on a single line. Print a blank line after each test case, even after the last one.