

Problem C: Chess Challenge

Time limit: 2 seconds

Claire loves the Olympic Games, and watches them every day when they are on. Unfortunately, this year, her absolute favourite event starts in the middle of the night. She usually likes playing chess against her brother during the breaks between different events, but since he has long gone to bed, this is not an option tonight. Getting more tired by every second, Claire struggles hard to stay awake. To not fall asleep entirely, she decides to challenge herself with some weird chess puzzles she finds online.

The chess board consists of only one row with n squares, where a square is either empty or contains a rook. Additionally, each rook is assigned a number of remaining moves. In each move, Claire may choose an arbitrary rook with more than zero remaining moves, and capture an adjacent rook with it. Two rooks are adjacent if there are no other rooks between them. The captured rook is taken out of the game, and the capturing rook has one move fewer left. The puzzle is solved if there is only one rook left in the end. Note that in each move, there must be a rook that is captured.

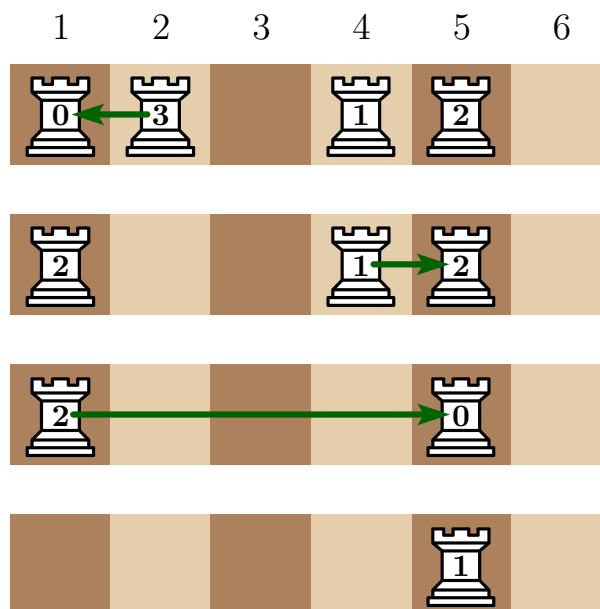


Figure C.1: Illustration of Sample 1. The puzzle is solvable with three moves. The state of the board is shown after each move of a possible solution.

Is it possible to solve the given puzzle? And if yes, which moves should Claire make?

Input

The input consists of:

- One line with an integer n ($1 \leq n \leq 10^5$), the size of the chess board.
- One line with n integers k ($-1 \leq k \leq 10^5$) which describe the state of each square on the board. The i th integer is -1 if the i th square is empty, otherwise, it denotes the number of remaining moves of the rook on square i .

The board contains at least one rook.

Output

Output “impossible” if the chess puzzle has no solution. Otherwise, output “possible”, followed by an integer m , the number of moves of a solution. Output the solution by outputting m pairs of integers a and b ($1 \leq a, b \leq n$, $a \neq b$), meaning that the rook on square a captures the rook on square b . If there are multiple valid solutions, you may output any one of them.

Sample Input 1

```
6
0 3 -1 1 2 -1
```

Sample Output 1

```
possible
3
2 1
4 5
1 5
```

Sample Input 2

```
6
0 -1 0 2 1 0
```

Sample Output 2

```
impossible
```