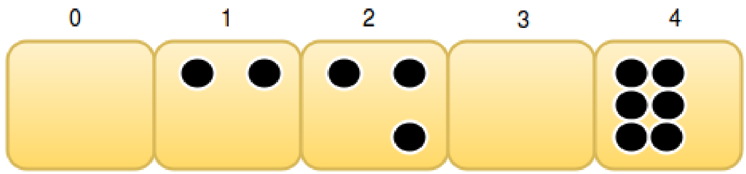
Nimble Game

HackerRank

Two people are playing Nimble! The rules of the game are:

- The game is played on a line of n squares, indexed from 0 to $n-1$. Each square i (where $0 \leq i < n$) contains c_i coins. For example:



- The players move in alternating turns. During each move, the current player must remove exactly 1 coin from square i and move it to square j if and only if $0 \leq j < i$.

- The game ends when all coins are in square 0 and nobody can make a move. The first player to have no available move loses the game.

Given the value of n and the number of coins in each square, determine whether the person who wins the game is the *first* or *second* person to move. Assume both players move optimally.

Input Format

The first line contains an integer, T, denoting the number of test cases.
Each of the $2T$ subsequent lines defines a test case. Each test case is described over the following two lines:

1. An integer, n, denoting the number of squares.
2. n space-separated integers, $c_0, c_1, \ldots, c_{n-1}$, where each c_i describes the number of coins at square i.

Constraints

- $1 \leq T \leq 10^4$
- $1 \leq n \leq 100$
- $0 \leq c_i \leq 10^9$

Output Format

For each test case, print the name of the winner on a new line (i.e., either `First` or `Second`).

Sample Input

```
2
5
0 2 3 0 6
4
0 0 0 0
```

Sample Output

```
First
Second
```

Explanation

Explanation for 1^{st} testcase:
The first player will shift one coin from $square_2$ to $square_0$. Hence, the second player is left with the squares $[1, 2, 2, 0, 6]$. Now whatever be his/her move is, the first player can always nullify the change by shifting a coin to the same square where he/she shifted it. Hence the last move is always played by the first player, so he wins.

Exlanation for 2^{nd} testcase:
There are no coins in any of the squares so the first player cannot make any move, hence second player wins.