Poker Nim

by Shafaet

Poker Nim is another 2-player game that's a simple variation on a Nim game. The rules of the games are as follows:

- The game starts with n piles of chips indexed from 0 to $n-1$. Each pile i (where $0 \leq i < n$) has c_i chips.
- The players move in alternating turns. During each move, the current player must perform *either* of the following actions:
  - Remove one or more chips *from* a single pile.
  - Add one or more chips *to* a single pile.

  At least 1 chip must be added or removed during each turn.
- To ensure that the game ends in finite time, a player cannot add chips to any pile i more than k times.
- The player who removes the last chip wins the game.

Given the values of n, k, and the numbers of chips in each of the n piles, 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. Two space-separated integers, n (the number of piles) and k (the maximum number of times an individual player can add chips to some pile i), respectively.
2. n space-separated integers, $c_0, c_1, \ldots, c_{n-1}$, where each c_i describes the number of chips at pile i.

Constraints

- $1 \leq T \leq 100$
- $1 \leq n, k \leq 100$
- $1 \leq c_i \leq 10^9$

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
2 5
1 2
3 5
2 1 3
```

Sample Output

```
First
Second
```

Submissions:1429

Max Score:20
Difficulty: Easy

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Current Buffer (saved locally, editable) Java 7

```java
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
    }
}
```

Line: 1 Col: 1

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