B. A Lot of Games

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Andrew, Fedor and Alex are inventive guys. Now they invent the game with strings for two players.

Given a group of n non-empty strings. During the game two players build the word together, initially the word is empty. The players move in turns. On his step player must add a single letter in the end of the word, the resulting word must be prefix of at least one string from the group. A player loses if he cannot move.

Andrew and Alex decided to play this game k times. The player who is the loser of the i-th game makes the first move in the $(i + 1)$-th game. Guys decided that the winner of all games is the player who wins the last (k-th) game. Andrew and Alex already started the game. Fedor wants to know who wins the game if both players will play optimally. Help him.

Input

The first line contains two integers, n and k ($1 \le n \le 10^5$; $1 \le k \le 10^9$).

Each of the next n lines contains a single non-empty string from the given group. The total length of all strings from the group doesn't exceed 10^5. Each string of the group consists only of lowercase English letters.

Output

If the player who moves first wins, print "`First`", otherwise print "`Second`" (without the quotes).

Examples

input
2 3 a b
output
First

input
3 1 a b c
output
First

input
1 2 ab
output
Second