# KNIGHT MOVES

A friend of you is doing research on the Traveling Knight Problem (TKP) where you are to find the shortest closed tour of knight moves that visits each square of a given set of n squares on a chessboard exactly once. He thinks that the most difficult part of the problem is determining the smallest number of knight moves between two given squares and that, once you have accomplished this, finding the tour would be easy.

Of course you know that it is vice versa. So you offer him to write a program that solves the "difficult" part.

Your job is to write a program that takes two squares a and b as input and then determines the number of knight moves on a shortest route from ato b.

Input Specification

The input file will contain one or more test cases. Each test case consists of one line containing two squares separated by one space. A square is a string consisting of a letter (a-h) representing the column and a digit (1-8) representing the row on the chessboard.

Output Specification

For each test case, print one line saying "To get from xx to yy takes n knight moves.".

Sample Input

e2 e4

a1 b2

b2 c3

a1 h8

a1 h7

h8 a1

b1 c3

f6 f6

Sample Output

To get from e2 to e4 takes 2 knight moves.

To get from a1 to b2 takes 4 knight moves.

To get from b2 to c3 takes 2 knight moves.

To get from a1 to h8 takes 6 knight moves.

To get from a1 to h7 takes 5 knight moves.

To get from h8 to a1 takes 6 knight moves.

To get from b1 to c3 takes 1 knight moves.

To get from f6 to f6 takes 0 knight moves.

题意：在8\*8棋盘上给定两个点，求将马从一个点移到另一个点所需要的最少步数。

# Fennec VS. Snuke

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Time limit : 2sec / Memory limit : 256MB

Problem Statement

Fennec and Snuke are playing a board game.

On the board, there are N cells numbered 1 through N, and N−1 roads, each connecting two cells. Cell ai is adjacent to Cell bi through the i-th road. Every cell can be reached from every other cell by repeatedly traveling to an adjacent cell. In terms of graph theory, the graph formed by the cells and the roads is a tree.

Initially, Cell 1 is painted black, and Cell N is painted white. The other cells are not yet colored. Fennec (who goes first) and Snuke (who goes second) alternately paint an uncolored cell. More specifically, each player performs the following action in her/his turn:

• Fennec: selects an uncolored cell that is adjacent to a black cell, and paints it black.

• Snuke: selects an uncolored cell that is adjacent to a white cell, and paints it white.

A player loses when she/he cannot paint a cell. Determine the winner of the game when Fennec and Snuke play optimally.

Constraints

• 2≤N≤105

• 1≤ai,bi≤N

• The given graph is a tree.

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Input

Input is given from Standard Input in the following format:

N

a1 b1

:

aN−1 bN−1

Output

If Fennec wins, print Fennec; if Snuke wins, print Snuke.

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Sample Input 1

7

3 6

1 2

3 1

7 4

5 7

1 4

Sample Output 1

Fennec

For example, if Fennec first paints Cell 2 black, she will win regardless of Snuke's moves.

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Sample Input 2

4

1 4

4 2

2 3

Sample Output 2

Snuke

题目大意：

有一颗编号从1~N的树，其中第一个结点为黑色，第N个结点为白色，其他结点为无色。

Fennec和Snuke轮流在该树上无色的结点上涂色，Fennec先涂色，且按照如下规则：

 Fennec：选择没有着色且与黑色相邻的结点涂色，且涂黑色

 Snuke：选择没有着色且与白色相邻的结点涂色，且涂白色

给定一颗树，求谁涂色的点较多。