

AVL Puzzle

Time Limit: 1 s

Memory Limit: 256 MB



Description

There will be an AVL Tree where each node has the ID and Character Representation. You will be Given a Word that you should check if it can be formed using the Nodes. The Formation should be started from the AVL Root and Sequential!

Input

- The first line contains an integer **N**, representing the number of Nodes.
- For each N lines, there will be **ID CHAR** that represents the Id and the Character Representation of the Node
- The last line is **keyWord** that you have to find whether it can be formed using the AVL tree

Output

- Print **FOUND** if the word can be formed, otherwise print **NOT FOUND**

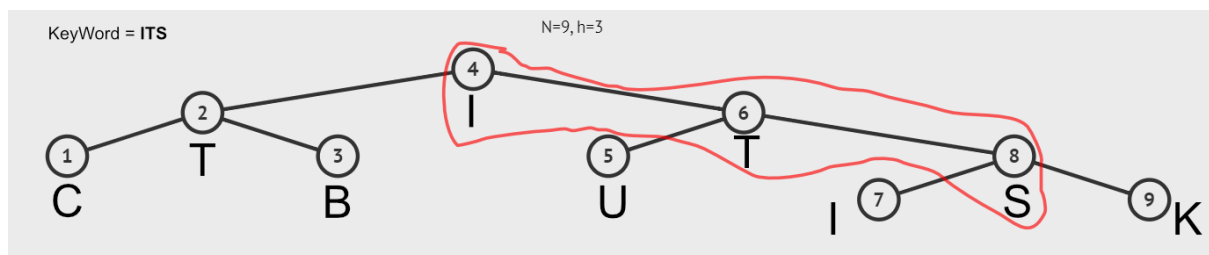
Constraints

- $\text{strlen}(\text{keyWord}) \leq 100$

Example #1

Input
9 1 C 2 T 3 B 4 I 5 U 6 T 7 I 8 S 9 K ITS
Output
FOUND

Explanation #1



Example #2

Input
12 5 M 9 E 24 T 7 O 19 A 30 S 11 S 17 E 22 Y 1 E 2 L 10 T

EASY

Output

NOT FOUND

Explanation #2

