8. I/O

Program Name: IO.java   **Input File: io.dat**

Les has a set of six-sided alpha-dice each of which has the same letter of the alphabet on each side of the die. He has some dice placed on the table in order from left to right and he has two tubes in which he must place the dice one at a time. Each die must be placed in tube #1, removed, and placed in tube #2 in an order so that the resulting "word" in tube #2 spells a specific word.

For example:

- Les begins with these letters on the table from left to right in this order: E T A T S
- His moves are denoted by:
    - I if he is placing the leftmost die from the table into the open end of tube #1.
    - O if he is taking the rightmost die out of the open end tube #1 and placing it in the open end of tube #2.
    - T if he is taking the rightmost die out of the open end of tube #1 and placing it on the rightmost end of the dice on the table.
    - No dice will be removed from tube #2.
    - There will always be a die available for any move.
- The result of the moves I I I I I O O O O O would result in the dice going into tube #1 in the order

 tube #1 opening – always faces right

- and then being removed from tube #1 one at a time and placed tube #2 resulting in the dice being in this order.

 tube #2 opening – always faces right

Input
- The first line will contain a single integer n that indicates the number of line pairs to follow.
- The first line of each pair of lines will contain two words separated by a space.
    - The first word is the letters in the initial order that they appear on the table from left to right.
    - The second word is the target word to appear in tube #2 after all moves have been made.
- The second line of each pair will contain a series of Is, Ts, and Os, separated by spaces, that indicate the moves to be made as defined above.

Output
For each pair of lines, print one of the following:
- NOT ENOUGH MOVES if, after all moves have been made, there is one or more die still left on the table or in tube #1
- MATCH if the table and tube #1 are both empty and the series of moves results in the dice in tube #2 matching the target word.
- NO MATCH if the table and tube #1 are both empty and the series of moves does not result in the dice in tube #2 matching the target word.

Example Input File
```
3
ETATS STATE
I I I I O I O O O O
MADER DREAM
I I T I O I I O O O
MADER DREAM
I I T I O I I O O I O O
```

Example Output to Screen
```
NO MATCH
NOT ENOUGH MOVES
MATCH
```