9   Penney

Maria and Gwen are vacationing in Paris, France. They are approached by a vendor on the street to play and bet on a two player coin flipping game, called Penney, after its inventor Walter Penney.

Each player chooses a pattern of three consecutive coin flips, from the 8 possible patterns: HHH, HHT, HTH, HTT, TTT, TTH, THT, and THH. (H = heads, T = tails). A coin is repeatedly flipped to generate a sequence of heads and tails. The first of the two patterns to show up wins.

For example, player 1 may choose HTH and player 2 may choose HHT. The coin is flipped until one of those patterns appear. After 6 flips the sequence HTTHTH is obtained, and player 1 wins. Notice the HTH at the end, and no HHT anywhere.

After listening to the game description, they see that the game is a confidence trick. So, of course, they agree to play, but demand that they choose their pattern after the vendor chooses.

Help Maria and Gwen win this game by writing a program that allows them to choose which of two triplets has a better percentage of winning. You may want to use a game simulation to calculate the results of the $8 \times 8 = 64$ possible comparisons.

The first line of input will be a single number $1 \le N \le 64$, the number of problems to follow. There will be N more lines, each with one problem. Each problem will have two 3-letter patterns of H and T, separated by a space.

The output will have N lines, one for each problem in the input. For each problem the output will be the pattern that has the higher probability of winning this game. If both patterns have equal probability, the output should be the word TIE.

Note: The ↵ symbol in the examples below represents a newline character.

Sample Input

```
4↵
HHT THT↵
THT TTH↵
HHH TTT↵
HTT HTT↵
```


Sample Output

```
HHT↵
TTH↵
TIE↵
TIE↵
```