# I Integer Game

Two players, **S** and **T,** are playing a game where they make alternate moves. **S** plays first. In this game, they start with an integer **N**. In each move, a player removes one digit from the integer and passes the resulting number to the other player. The game continues in this fashion until a player finds he/she has no digit to remove when that player is declared as the loser.

With this restriction, it's obvious that if the number of digits in **N** is odd then **S** wins otherwise **T** wins. To make the game more interesting, we apply one additional constraint. A player can remove a particular digit if the sum of digits of the resulting number is a multiple of 3 or there are no digits left.

Suppose **N** = 1234. **S** has 4 possible moves. That is, he can remove 1, 2, 3, or 4. Of these, two of them are valid moves.

- Removal of 4 results in 123 and the sum of digits = 1 + 2 + 3 = 6; 6 is a multiple of 3.
- Removal of 1 results in 234 and the sum of digits = 2 + 3 + 4 = 9; 9 is a multiple of 3.

The other two moves are invalid.

If both players play perfectly, who wins?

## Input

The first line of input is an integer **T**(**T**<60) that determines the number of test cases. Each case is a line that contains a positive integer **N**. **N** has at most 1000 digits and does not contain any zeros.

## Output

For each case, output the case number starting from 1. If **S** wins then output '**S**' otherwise output '**T**'.

| Sample Input | Output for Sample Input |
|---|---|
| `3`<br>`4`<br>`33`<br>`771` | `Case 1: S`<br>`Case 2: T`<br>`Case 3: T` |

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