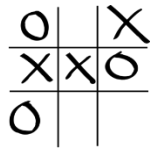# Problem 86: Tic Tac Toe Checker

Difficulty: Medium

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Problem Background

You have been hired by CoolGames, Inc. to create a tic-tac-toe checker program that they can use to determine whether X wins, O wins, or if a tie has resulted.

Problem Description

Tic-tac-toe is a game for two players, X and O, who take turns marking the spaces in a 3 x 3 grid. The player who succeeds in placing three of their marks in a horizontal, vertical or diagonal row wins the game.

The following example game is won by the first player, X:

Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include:

- A single line of characters denoting the current state of a Tic-Tac-Toe game.

The game state will represented as follows:
<1 VALUE><2 VALUE><3 VALUE><4 VALUE><5 VALUE><6 VALUE><7 VALUE><8 VALUE><9 VALUE>

1	2	3
4	5	6
7	8	9

Figure 1. Tic-Tac-Toe Mapping

O	-	X
-	O	O
X	X	X

Figure 2. Tic-Tac-Toe Game

123456789
O-X-OOXXX

Figure 3. Tic-Tac-Toe Encoding

In Figure 1, it shows how the values in the tic-tac-toe board are mapped. In Figure 2, it shows an example tic-tac-toe game being played where "-" means no one has played in the area. In Figure 3, it shows how the tic-tac-toe game is encoded into a string of values based on the board mapping

```
8
O-X-OOXXX
XOX-OXO-X
X-O-XO--O
OXOXXOXOX
--X-X-XOO
XXOXO-O--
XOXXOOOXX
---------
```

Sample Output

For each test case, your program should output one line in the following format:
- The original input line followed by a single space, an equal sign, and another single space
- One of the following three phrases depending on the outcome of the game:
  - X WINS
  - O WINS
  - TIE

```
O-X-OOXXX = X WINS
XOX-OXO-X = X WINS
X-O-XO--O = O WINS
OXOXXOXOX = TIE
--X-X-XOO = X WINS
XXOXO-O-- = O WINS
XOXXOOOXX = TIE
--------- = TIE
```