20 Tic Tac Toe checker
12 points

Introduction

The "Three-in-a-row" game, known in english as Tic-Tac-Toe is a game that can be traced back to Egypt, where such game boards have been found on roofing tiles dating from around 1300 BC. But it has been found that in those roofing tiles board the game does not always follow current rules.

You are asked to write a program that determines wether a game follows current Tic-Tac-Toe rules and who won that game (if someone did). In the program, a Tic-Tac-Toe board can only have three symbols: X, O and _ (for the blank square).

A game is considered finished if:

   a) One of the players (X or O) obtained a three-in-a-row (either horizontally, vertically or in one of the main diagonals). In this case the output will show who is the winner with the outputs "X WON" or "O WON".

   b) All 9 board squares are filled with "X" or "O" and Three-in-a-row is not found. In this case the output will be "IT'S A TIE"

There are two cases in which a board should be considered "NOT VALID":

   - In a valid board the number of X's and O's may only differ in one, otherwise the board will be considered "NOT VALID".

   - If a board shows three-in-a-row of both players, the board will also be considered "NOT VALID".

If the game is not finished and the board is not considered "NOT VALID", this means the board shows a game in a "PLAYING" state.

Input

The input will consist of three lines containing three characters (X, O or _) each.

Output

Depending on the previously indicated rules, the output will consist in a single line indicating either

- NOT VALID

– PLAYING

– IT'S A TIE

– X WON

– O WON

Example 1

Input

```
XXX
XOO
XOO
```

Output

```
X WON
```

Example 2

Input

```
X__
OOO
OOO
```

Output

```
NOT VALID
```