

Handong Honor Code

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Assignment 03

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Tic-tac-toe is a paper-and-pencil game for two players who take turns marking the spaces in a three-by-three grid with X or O. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row is the winner (from Wikipedia; <https://en.wikipedia.org/wiki/Tic-tac-toe>)

Write a program that determines which player (`x` or `o`) won in a Tic-Tac-Toe game. You will be given a text file that contains something like below. In this example, `x` won because three `x` 's are placed in a diagonal row.

```
O X X
O X O
X O X
```

To make your life a bit easier, you will get a snippet code that reads this text file and converts it into a 3x3 matrix (basically, a list in a list). Use conditional statements to figure out who won, and then display either `X won!` or `O won!` .

Your program should work for any game play. For example, here are four additional game plays you can test with:

[1]	[2]
O O X	X X O
- X X	O X O
X - O	X O O
[3]	[4]
X O O	O X X
O X X	O X O
X O X	O O X

- You can use for-loops if you want.
- - means that no player has placed anything yet on that spot.

```
In [1]: def read_test_data(filename):
        data = []
        with open(filename, "rt") as fin:
            lines = fin.read().strip().split("\n")
            for line in lines:
                row = line.split(" ")
                data.append(row)
        return data

def display_board(data):
    for row in data:
        print(" ".join(row))

tic_tac_toe = read_test_data(filename="test-data.txt")
print("== 3x3 Matrix (a list in a list) ==")
print(tic_tac_toe)
print()
print("== Tic-Tac-Toe Board ==")
display_board(tic_tac_toe)

### YOUR CODE STARTS HERE

### YOUR CODE ENDS HERE

"""
### YOUR EXPLANATION STARTS HERE

### YOUR EXPLANATION ENDS HERE
"""
```