

# TicTacToe Part 4

## Contents

TicTacToe Part 4 .....	1
Tic Tac Toe.....	1
Videos .....	1
Check for Draw .....	1
Step 1: Draw the Solution on a Piece of Paper .....	2
Step 2: Create the Code.....	2
Challenges .....	2
Assignment Submission.....	2

Time required: 90 minutes

## Tic Tac Toe

A classic programming problem.

## Videos

If you are having trouble with this assignment, or want to see another solution:

- [Tic-Tac-Toe in Matlab: Part 1](#)
- [Tic-Tac-Toe in Matlab: Part 2](#)
- [Tic-Tac-Toe in Matlab: Part 3](#)

## Check for Draw

Create a function called **isDraw()** which takes the board as a parameter. It returns true or false.

- Convert board to a column vector.
- Check if **any** cell is empty (contains 0)
- If there are not any empty cells, return false.

---

## Step 1: Draw the Solution on a Piece of Paper

Yes, solve the problem first on a piece of paper.

---

## Step 2: Create the Code

Use what you wrote on the piece of paper to outline and code the solution.

Example run:

```
Do you want to play a game?
Let's play Tic Tac Toe
Can you beat the computer?
  0   0   0
  0   0   0
  0   0   0

Enter your move (1-9) (0 to exit): 1
Computer moves:
  1   0   0
  0   0   0
  0   2   0

Enter your move (1-9) (0 to exit): 2
Computer moves:
  1   1   0
  0   0   0
  0   2   2

Enter your move (1-9) (0 to exit): 3
Congratulations! You win!
```

## Challenges

- Use X's and O's for the player's marks.
- Allow the player to play again.
- Keep score of wins and losses.
- Make the board a bit more fancy.

---

## Assignment Submission

1. Attach a scan or photo of your paper solution.
2. Submit properly named and commented script files.

3. Attach a screenshot of the Command Window showing the successful execution of each script.
4. Attach all to the assignment in Blackboard.