Tic Tac Toe

In this project you will make the classic game of Tic Tac Toe. This is a relatively open-ended project, but read on for a few tips / requirements before starting:

- Create the type(s) needed to store the state of the game and any functions that might be useful, for example toggling the player's turn (X to O and vice versa).
    - Use a `[String]` or `[Int]` to maintain the state of the game.
        - Note that because there are only 9 positions in the game, you do not need a "2D" list (a list of lists) for this project. A "1D" list with 9 positions will be sufficient.
    - Use an instance of this type in the <u>ViewController</u> to manage game state.
- <u>UIButton</u>s have a "tag" property you can use to link a particular button to a board position.
    - The top-left corner button should have a tag number of 0. Center would be 4.
- **Test one feature at a time (before moving to the next feature)**
- **Note:** Your game must have the ability to restart (new game) for a win or draw.
    - **You should NOT have 9 individual button outlets in your program!**
    - You can either add a button to restart or use a <u>Timer</u> to wait for a bit after a win/draw to restart automatically

Extension Ideas

- Add animations to wins (e.g. highlighting the winning line).
- Add an activity indicator when waiting to load a new game.
- Improve the turn / win label with nicer graphics.
- Add animations to player moves.
- *Challenging.* Add an AI player, possibly with different difficult levels.
- *Challenging.* Create '[ultimate tic tac toe](#)' – you'll need to make your game code very modular.