Milestone Project 1: Walk-through Steps Workbook

Below is a set of steps for you to follow to try to create the Tic Tac Toe Milestone Project game!

In [86]:
```
# For using the same code in either Python 2 or 3
from __future__ import print_function

## Note: Python 2 users, use raw_input() to get player input. Python 3 users,
 use input()
```

Step 1: Write a function that can print out a board. Set up your board as a list, where each index 1-9 corresponds with a number on a number pad, so you get a 3 by 3 board representation.

In [87]:
```
from IPython.display import clear_output
def display_board(board):

    pass
```

Step 2: Write a function that can take in a player input and assign their marker as 'X' or 'O'. Think about using *while* loops to continually ask until you get a correct answer.

In [88]:
```
def player_input():

    pass
```

Step 3: Write a function that takes, in the board list object, a marker ('X' or 'O'), and a desired position (number 1-9) and assigns it to the board.

In [89]:
```
def place_marker(board, marker, position):
    pass
```

Step 4: Write a function that takes in a board and a mark (X or O) and then checks to see if that mark has won.

In [90]:
```
def win_check(board,mark):

    pass
```

Step 5: Write a function that uses the random module to randomly decide which player goes first. You may want to lookup random.randint() Return a string of which player went first.

In [91]:
```
import random
def choose_first():
    pass
```

Step 6: Write a function that returns a boolean indicating whether a space on the board is freely available.

In [92]:
```
def space_check(board, position):

    pass
```

Step 7: Write a function that checks if the board is full and returns a boolean value. True if full, False otherwise.

In [93]:
```
def full_board_check(board):
    pass
```

Step 8: Write a function that asks for a player's next position (as a number 1-9) and then uses the function from step 6 to check if its a free position. If it is, then return the position for later use.

In [94]:
```
def player_choice(board):
    pass
```

Step 9: Write a function that asks the player if they want to play again and returns a boolean True if they do want to play again.

In [95]:
```
def replay():

    pass
```

Step 10: Here comes the hard part! Use while loops and the functions you've made to run the game!

In [7]:
```
print('Welcome to Tic Tac Toe!')

#while True:
    # Set the game up here
    #pass

    #while game_on:
        #Player 1 Turn


        # Player2's turn.

            #pass

    #if not replay():
        #break
```

```
Welcome to Tic Tac Toe!
```

Good Job!