PROGRAM [1]:

```
import random
class TicTacToe:
    def __init__(self):
        self.board = [['-' for _ in range(3)] for _ in range(3)]
    def get_random_first_player(self):
        return random.choice(['X', 'O'])
    def fix_spot(self, row, col, player):
        self.board[row][col] = player
    def is_player_win(self, player):
        n = len(self.board)
        for i in range(n):
            if all(self.board[i][j] == player for j in range(n)) or all(self.board[j][i] == player for j in
range(n)):
                return True
        if all(self.board[i][i] == player for i in range(n)) or all(self.board[i][n - 1 - i] == player for i in
range(n)):
            return True
        return False
    def is_board_filled(self):
        return all(item != '-' for row in self.board for item in row)
    def swap_player_turn(self, player):
        return 'X' if player == 'O' else 'O'
    def show_board(self):
        for row in self.board:
            print(*row)
    def start(self):
```

OUTPUT [1]:

```
Player O turn
- - -
- - -
- - -
Enter row and column numbers to fix spot: 1 1


Player X turn
O - -
- - -
- - -
Enter row and column numbers to fix spot: 1 3


Player O turn
O - X
- - -
- - -
Enter row and column numbers to fix spot: 2 1


Player X turn
O - X
O - -
- - -
Enter row and column numbers to fix spot: 2 2


Player O turn
O - X
O X -
- - -
Enter row and column numbers to fix spot: 3 1

Player O wins the game!
O - X
O X -
O - -
```

```
        self.get_random_first_player()
player = 'X' if self.get_random_first_player() == 'X' else 'O'
        while True:
            print(f"Player {player} turn")
            self.show_board()
            row, col = map(int, input("Enter row and column numbers to fix spot: ").split())
            print()
            self.fix_spot(row - 1, col - 1, player)
            if self.is_player_win(player):
                print(f"Player {player} wins the game!")
                break
            if self.is_board_filled():
                print("Match Draw!")
                break
            player = self.swap_player_turn(player)
            print()
        self.show_board()
tic_tac_toe = TicTacToe()
tic_tac_toe.start()
```