In [1]:

```
#214g1a0522
#B.DIVYA SREE
import random
class TicTacToe:
    def __init__(self):
        self.board = []
    def create_board(self):
        for i in range(3):
            row = []
            for j in range(3):
                row.append('-')
            self.board.append(row)
    def get_random_first_player(self):
        return random.randint(0, 1)
    def fix_spot(self, row, col, player):
        self.board[row][col] = player
    def is_player_win(self, player):
        win = None
        n = len(self.board)
        # checking rows
        for i in range(n):          #522 b.divya sree
            win = True
            for j in range(n):
                if self.board[i][j] != player:
                    win = False
                    break
            if win:
                return win
        # checking columns
        for i in range(n):
            win = True
            for j in range(n):
                if self.board[j][i] != player:
                    win = False
                    break
            if win:
                return win
        # checking diagonals
        win = True
        for i in range(n):
            if self.board[i][i] != player:
                win = False
                break
        if win:
            return win
        win = True
        for i in range(n):
            if self.board[i][n - 1 - i] != player:
                win = False
                break
        if win:
            return win
        return False
        for row in self.board:
            for item in row:
                if item == '-':
                    return False
        return True
    def is_board_filled(self):
        for row in self.board:
            for item in row:
                if item == '-':
                    return False
        return True
    def swap_player_turn(self, player):
        return 'X' if player == 'O' else 'O'
    def show_board(self):
        for row in self.board:                                      #522 b.divya sree
            for item in row:
                print(item, end=" ")
            print()
    def start(self):
        self.create_board()
        player = 'X' if self.get_random_first_player() == 1 else 'O'
        while True:
            print(f"Player {player} turn")
            self.show_board()
            # taking user input
            row, col = list(
                map(int, input("Enter row and column numbers to fix spot: ").split()))
            print()
            # fixing the spot
            self.fix_spot(row - 1, col - 1, player)
            # checking whether current player is won or not
            if self.is_player_win(player):
                print(f"Player {player} wins the game!")
                break
            # checking whether the game is draw or not
            if self.is_board_filled():
                print("Match Draw!")
                break
            # swapping the turn
            player = self.swap_player_turn(player)
        # showing the final view of board
        print()
        self.show_board()
# starting the game
tic_tac_toe = TicTacToe()
tic_tac_toe.start()                       #522 b.divya sree
```

```
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 2

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

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

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

Player X turn
O X O
X O -
- - -
Enter row and column numbers to fix spot: 2 3

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

```
Player O wins the game!

O X O
X O X
O - -
```

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