

Lab 1

TIC TAC TOE

```
def print_board(board):
    for row in board:
        print("".join(row))
    print()

def check_winner(board, player):
    for row in board:
        if all(s == player for s in row):
            return True
    for col in range(3):
        if all(board[row][col] == player for row in range(3)):
            return True
    if all(board[i][i] == player for i in range(3)) or all(board[i][2 - i] == player for i in range(3)):
        return True
    return False

def is_full(board):
    return all(cell != " " for row in board for cell in row)

def play_game():
    board = [[" " for _ in range(3)] for _ in range(3)]
    current_player = "X"
    while True:
        print_board(board)
        row, col = map(int, input(f"Player {current_player}, enter row and col (0-2, space separated): ").split())
        if board[row][col] == " ":
            board[row][col] = current_player
            if check_winner(board, current_player):
                print_board(board)
                print(f"Player {current_player} wins!")
                break
            if is_full(board):
                print_board(board)
                print("It's a draw!")
                break
            current_player = "O" if current_player == "X" else "X"
        else:
            print("Cell already taken, try again.")
```

play_game()

OUT PUT

```
Player X, enter row and col (0-2, space separated): 2 2
X|O|
 |X|
 |O|X

Player X wins!
```

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```
Player X, enter row and col (0-2, space separated): 2 1
X|O|X
X|O|O
O|X|X

It's a draw!
```

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```
Player O, enter row and col (0-2, space separated): 2 1
X|O|
 |O|X
 |O|X

Player O wins!
```

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