**12. Write the python program for Tic Tac Toe game**

**Program:** def print\_board(board):

print("\n")

for row in board:

print(" | ".join(row))

print("-" \* 9)

def check\_win(board, player):

# Check rows, columns and diagonals

for i in range(3):

if all(cell == player for cell in board[i]):

return True

if all(row[i] == player for row in board):

return True

if all(board[i][i] == player for i in range(3)):

return True

if all(board[i][2 - i] == player for i in range(3)):

return True

return False

def is\_draw(board):

return all(cell in ['X', 'O'] for row in board for cell in row)

def tic\_tac\_toe():

board = [[" " for \_ in range(3)] for \_ in range(3)]

current\_player = "X"

while True:

print\_board(board)

print(f"Player {current\_player}'s turn.")

try:

row = int(input("Enter row (0, 1, 2): "))

col = int(input("Enter column (0, 1, 2): "))

except ValueError:

print("Invalid input. Please enter numbers.")

continue

if row not in range(3) or col not in range(3):

print("Invalid position. Try again.")

continue

if board[row][col] != " ":

print("Cell already taken. Choose another one.")

continue

board[row][col] = current\_player

if check\_win(board, current\_player):

print\_board(board)

print(f"🎉 Player {current\_player} wins!")

break

if is\_draw(board):

print\_board(board)

print("It's a draw!")

break

# Switch player

current\_player = "O" if current\_player == "X" else "X"

# Start the game

tic\_tac\_toe()

**output:**

