

LAB-1:TIC-TAC-TOE

```
def print_board(board):
    for row in board:
        print(row[0], "|", row[1], "|", row[2])
        print("-----")

def check_winner(board):
    for i in range(3):
        if board[i][0] == board[i][1] == board[i][2] != ' ':
            return board[i][0]
        if board[0][i] == board[1][i] == board[2][i] != ' ':
            return board[0][i]
    if board[0][0] == board[1][1] == board[2][2] != ' ':
        return board[0][0]
    if board[0][2] == board[1][1] == board[2][0] != ' ':
        return board[0][2]
    return None

def check_draw(board):
    return all(cell != ' ' 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)
        row = int(input(f"Player {current_player}, enter row (0-2): "))
        col = int(input(f"Player {current_player}, enter column (0-2): "))

        if board[row][col] != ' ':
            print("Cell is already occupied! Try again.")
            continue

        board[row][col] = current_player

        winner = check_winner(board)
        if winner:
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    print_board(board)
    print(f"Player {winner} wins!")
    break

if check_draw(board):
    print_board(board)
    print("It's a draw!")
    break

current_player = 'O' if current_player == 'X' else 'X'

if __name__ == "__main__":
    tic_tac_toe()
```

OUTPUT: Scenario where X wins!



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Player X, enter row (0-2): 0

Player X, enter column (0-2): 0

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X | | |
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Player O, enter row (0-2): 0

Player O, enter column (0-2): 1

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X | O | |
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Player X, enter row (0-2): 1

Player X, enter column (0-2): 1

```
X | X | |
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Player O, enter row (0-2): 0



Player O, enter column (0-2): 2

X | O | O

 | X |

 | |

Player X, enter row (0-2): 2

Player X, enter column (0-2): 2

X | O | O

 | X |

 | | X

Player X wins!

Scenario where it is a draw!



Player X, enter row (0-2): 1



Player X, enter column (0-2): 1

X | O |

| X |

| |

Player O, enter row (0-2): 2

Player O, enter column (0-2): 2

X | O |

| X |

| | O

Player X, enter row (0-2): 0

Player X, enter column (0-2): 2

X | O | X

| X |

| | O

Player O, enter row (0-2): 2

Player O, enter column (0-2): 0

X | O | X

| X |

O | | O



Player X, enter row (0-2): 2



Player X, enter column (0-2): 1

X | O | X

 | X |

O | X | O

Player O, enter row (0-2): 1

Player O, enter column (0-2): 2

X | O | X

 | X | O

O | X | O

Player X, enter row (0-2): 1

Player X, enter column (0-2): 0

X | O | X

X | X | O

O | X | O

It's a draw!