

FINAL PROJECT: TIC TAC TOE GAME

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Code:

```
# Function to print the board
def print_board(board):
    for row in board:
        print(" | ".join(row))
        print("-" * 5)

# Function to check if someone has won
def check_winner(board, player):
    # Check rows
    for row in board:
        if all(s == player for s in row):
            return True

    # Check columns
    for col in range(3):
        if all(board[row][col] == player for row in range(3)):
            return True

    # Check diagonals
    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

# Function to check if board is full
def is_full(board):
    return all(all(cell != " " for cell in row) for row in board)

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 col (0, 1, 2): "))
except ValueError:
    print("Invalid input. Please enter numbers only.")
    continue

if row not in [0, 1, 2] or col not in [0, 1, 2]:
    print("Invalid position. Try again.")
    continue

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

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

# Switch player
current_player = "O" if current_player == "X" else "X"

if __name__ == "__main__":
    tic_tac_toe()

```

Output:

PS C:\Users\Laptop\AppData\Local\Programs\Microsoft V

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Player X's turn.

Enter row (0, 1, 2): 0

Enter col (0, 1, 2): 1

| X |

| |

| |

Player O's turn.

Enter row (0, 1, 2): 0

Enter col (0, 1, 2): 0

O | X |

| |

| |

Player X's turn.

Enter row (0, 1, 2): 0

Enter col (0, 1, 2): 2

O | X | X

| |

| |

Player O's turn.

Enter row (0, 1, 2): 1

Enter col (0, 1, 2): 0

O | X | X

O | |

Player X's turn.

Enter row (0, 1, 2): 2

Enter col (0, 1, 2): 0

O | X | X

O | X | O

X | |

🏆 Player X wins!

PS C:\Users\Laptop\AppData\Local\Programs\Microsoft VS Code> █