# Function to print Tic Tac Toe

def print\_tic\_tac\_toe(values):

print("\n")

print("\t | |")

print("\t {} | {} | {}".format(values[0], values[1], values[2]))

print('\t\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_')

print("\t | |")

print("\t {} | {} | {}".format(values[3], values[4], values[5]))

print('\t\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_')

print("\t | |")

print("\t {} | {} | {}".format(values[6], values[7], values[8]))

print("\t | |")

print("\n")

# Function to print the score-board

def print\_scoreboard(score\_board):

print("\t--------------------------------")

print("\t SCOREBOARD ")

print("\t--------------------------------")

players = list(score\_board.keys())

print("\t ", players[0], "\t ", score\_board[players[0]])

print("\t ", players[1], "\t ", score\_board[players[1]])

print("\t--------------------------------\n")

# Function to check if any player has won

def check\_win(player\_pos, cur\_player):

# All possible winning combinations

soln = [[1, 2, 3], [4, 5, 6], [7, 8, 9], [1, 4, 7], [2, 5, 8], [3, 6, 9], [1, 5, 9], [3, 5, 7]]

# Loop to check if any winning combination is satisfied

for x in soln:

if all(y in player\_pos[cur\_player] for y in x):

# Return True if any winning combination satisfies

return True

# Return False if no combination is satisfied

return False

# Function to check if the game is drawn

def check\_draw(player\_pos):

if len(player\_pos['X']) + len(player\_pos['O']) == 9:

return True

return False

# Function for a single game of Tic Tac Toe

def single\_game(cur\_player):

# Represents the Tic Tac Toe

values = [' ' for x in range(9)]

# Stores the positions occupied by X and O

player\_pos = {'X':[], 'O':[]}

# Game Loop for a single game of Tic Tac Toe

while True:

print\_tic\_tac\_toe(values)

# Try exception block for MOVE input

try:

print("Player ", cur\_player, " turn. Which box? : ", end="")

move = int(input())

except ValueError:

print("Wrong Input!!! Try Again")

continue

# Sanity check for MOVE inout

if move < 1 or move > 9:

print("Wrong Input!!! Try Again")

continue

# Check if the box is not occupied already

if values[move-1] != ' ':

print("Place already filled. Try again!!")

continue

# Update game information

# Updating grid status

values[move-1] = cur\_player

# Updating player positions

player\_pos[cur\_player].append(move)

# Function call for checking win

if check\_win(player\_pos, cur\_player):

print\_tic\_tac\_toe(values)

print("Player ", cur\_player, " has won the game!!")

print("\n")

return cur\_player

# Function call for checking draw game

if check\_draw(player\_pos):

print\_tic\_tac\_toe(values)

print("Game Drawn")

print("\n")

return 'D'

# Switch player moves

if cur\_player == 'X':

cur\_player = 'O'

else:

cur\_player = 'X'

if \_\_name\_\_ == "\_\_main\_\_":

print("Player 1")

player1 = input("Enter the name : ")

print("\n")

print("Player 2")

player2 = input("Enter the name : ")

print("\n")

# Stores the player who chooses X and O

cur\_player = player1

# Stores the choice of players

player\_choice = {'X' : "", 'O' : ""}

# Stores the options

options = ['X', 'O']

# Stores the scoreboard

score\_board = {player1: 0, player2: 0}

print\_scoreboard(score\_board)

# Game Loop for a series of Tic Tac Toe

# The loop runs until the players quit

while True:

# Player choice Menu

print("Turn to choose for", cur\_player)

print("Enter 1 for X")

print("Enter 2 for O")

print("Enter 3 to Quit")

# Try exception for CHOICE input

try:

choice = int(input())

except ValueError:

print("Wrong Input!!! Try Again\n")

continue

# Conditions for player choice

if choice == 1:

player\_choice['X'] = cur\_player

if cur\_player == player1:

player\_choice['O'] = player2

else:

player\_choice['O'] = player1

elif choice == 2:

player\_choice['O'] = cur\_player

if cur\_player == player1:

player\_choice['X'] = player2

else:

player\_choice['X'] = player1

elif choice == 3:

print("Final Scores")

print\_scoreboard(score\_board)

break

else:

print("Wrong Choice!!!! Try Again\n")

# Stores the winner in a single game of Tic Tac Toe

winner = single\_game(options[choice-1])

# Edits the scoreboard according to the winner

if winner != 'D' :

player\_won = player\_choice[winner]

score\_board[player\_won] = score\_board[player\_won] + 1

print\_scoreboard(score\_board)

# Switch player who chooses X or O

if cur\_player == player1:

cur\_player = player2

else:

cur\_player = player1

output

Player 1

Enter the name : Luffy

Player 2

Enter the name : Sanji

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SCOREBOARD

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Luffy 0

Sanji 0

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Turn to choose for Luffy

Enter 1 for X

Enter 2 for O

Enter 3 to Quit

1

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player X turn. Which box? : 5

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player O turn. Which box? : 1

| |

O | |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player X turn. Which box? : 9

| |

O | |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| | X

| |

Player O turn. Which box? : 2

| |

O | O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| | X

| |

Player X turn. Which box? : 3

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| | X

| |

Player O turn. Which box? : 7

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

O | | X

| |

Player X turn. Which box? : 6

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

O | | X

| |

Player X has won the game!!

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SCOREBOARD

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Luffy 1

Sanji 0

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Turn to choose for Sanji

Enter 1 for X

Enter 2 for O

Enter 3 to Quit

2

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player O turn. Which box? : 5

| |

| |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player X turn. Which box? : 3

| |

| | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player O turn. Which box? : 2

| |

| O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| |

| |

Player X turn. Which box? : 8

| |

| O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

| |

Player O turn. Which box? : 1

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X |

| |

Player X turn. Which box? : 9

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O |

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X | X

| |

Player O turn. Which box? : 6

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O | O

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| X | X

| |

Player X turn. Which box? : 7

| |

O | O | X

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

| O | O

\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_

| |

X | X | X

| |

Player X has won the game!!

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SCOREBOARD

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Luffy 2

Sanji 0

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Turn to choose for Luffy

Enter 1 for X

Enter 2 for O

Enter 3 to Quit

3

Final Scores

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SCOREBOARD

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Luffy 2

Sanji 0

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