In [1]:

```python
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")



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")


def check_win(player_pos, cur_player):


    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]]


    for x in soln:
        if all(y in player_pos[cur_player] for y in x):


            return True

    return False


def check_draw(player_pos):
    if len(player_pos['X']) + len(player_pos['O']) == 9:
        return True
    return False

def single_game(cur_player):


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


    player_pos = {'X':[], 'O':[]}


    while True:
        print_tic_tac_toe(values)


        try:
            print("Player ", cur_player, " turn. Which box? : ", end="")
            move = int(input())
        except ValueError:
            print("Wrong Input!!! Try Again")
            continue


        if move < 1 or move > 9:
            print("Wrong Input!!! Try Again")
            continue


        if values[move-1] != ' ':
            print("Place already filled. Try again!!")
            continue




        values[move-1] = cur_player

        player_pos[cur_player].append(move)


        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


        if check_draw(player_pos):
            print_tic_tac_toe(values)
            print("Game Drawn")
            print("\n")
            return 'D'


        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")


    cur_player = player1


    player_choice = {'X' : "", 'O' : ""}


    options = ['X', 'O']


    score_board = {player1: 0, player2: 0}
    print_scoreboard(score_board)


    while True:

        print("Turn to choose for", cur_player)
        print("Enter 1 for X")
        print("Enter 2 for O")
        print("Enter 3 to Quit")


        try:
            choice = int(input())
        except ValueError:
            print("Wrong Input!!! Try Again\n")
            continue


        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")


        winner = single_game(options[choice-1])


        if winner != 'D' :
            player_won = player_choice[winner]
            score_board[player_won] = score_board[player_won] + 1

        print_scoreboard(score_board)

        if cur_player == player1:
            cur_player = player2
        else:
            cur_player = player1
```

```
Player 1
Enter the name : Sam


Player 2
Enter the name : Vans


        --------------------------------
                      SCOREBOARD
        --------------------------------
            Sam             0
            Vans            0
        --------------------------------

Turn to choose for Sam
Enter 1 for X
Enter 2 for O
Enter 3 to Quit
1


             |     |
             |     |
        _____|_____|_____
             |     |
             |     |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  X  turn. Which box? : 1


             |     |
          X  |     |
        _____|_____|_____
             |     |
             |     |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  O  turn. Which box? : 5


             |     |
          X  |     |
        _____|_____|_____
             |     |
             |  O  |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  X  turn. Which box? : 2


             |     |
          X  |  X  |
        _____|_____|_____
             |     |
             |  O  |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  O  turn. Which box? : 4


             |     |
          X  |  X  |
        _____|_____|_____
             |     |
          O  |  O  |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  X  turn. Which box? : 3


             |     |
          X  |  X  |  X
        _____|_____|_____
             |     |
          O  |  O  |
        _____|_____|_____
             |     |
             |     |
             |     |


Player  X  has won the game!!


        --------------------------------
                      SCOREBOARD
        --------------------------------
            Sam             1
            Vans            0
        --------------------------------

Turn to choose for Vans
Enter 1 for X
Enter 2 for O
Enter 3 to Quit
3
Final Scores
        --------------------------------
                      SCOREBOARD
        --------------------------------
            Sam             1
            Vans            0
        --------------------------------
```

In [ ]: