```python
import sys

#from IPython.display import clear_output

def display_board(board):

    #clear_output()

    print(board[7]+'|'+board[8]+'|'+board[9])
    print('------')
    print(board[4]+'|'+board[5]+'|'+board[6])
    print('------')
    print(board[1]+'|'+board[2]+'|'+board[3])

def player_input():

    """ OUTPUT = (Player 1 marker, PLayer 2 marker) """

    marker = ''

    #can use ~ while not (marker == 'X' or marker == 'O')

    while marker != 'X' and marker != 'O':
        marker = input("Player 1, choose X or O: ").upper()

    if marker == 'X':
        return ('X','O')
    else:
        return ('O','X')

def place_marker(board, marker, position):

    board[position] = marker

def win_check(board, mark):

    # can do ~ (board[1] == board[2] == board[3] == mark) ...
    # similarly for other 2 rows, 3 columns and 2 diagonals.

    return ((board[7] == mark and board[8] == mark and board[9] == mark) or # across the top
    (board[4] == mark and board[5] == mark and board[6] == mark) or         # across the middle
    (board[1] == mark and board[2] == mark and board[3] == mark) or         # across the bottom
    (board[7] == mark and board[4] == mark and board[1] == mark) or         # down the left
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    (board[8] == mark and board[5] == mark and board[2] == mark) or          # down the middle
    (board[9] == mark and board[6] == mark and board[3] == mark) or          # down the right
    (board[7] == mark and board[5] == mark and board[3] == mark) or          # diagonal 1
    (board[9] == mark and board[5] == mark and board[1] == mark))            # diagonal 2

import random

def choose_first():

    flip = random.randint(0,1)

    if flip == 0:
        return "Player 1"
    else:
        return "Player 2"

def space_check(board,position):

    return board[position] == ' '

def full_board_check(board):

    for i in range(1,10):
        if space_check(board,i):
            return False

    return True

def player_choice(board):

    position = 0

    while position not in range(1,10) or not space_check(board,position):
        position = int(input("Choose a position (1-9): "))

    return position

def replay():

    choice = input ("Play again? Yes or No: ")

    return choice == "Y"
```

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86
87  # While loop to keep running the game
88
89  print ("Welcome to Tic Tac Toe game.")
90
91  while True:
92
93  # Play the game
94
95  ## Set up - Board, Who's first, markers X,O
96
97      the_board = [' ']*10
98      player1_marker, player2_marker = player_input()
99
100     turn = choose_first()
101     print (turn + " will go first.")
102
103     play_game = input("Ready to play? Y or N?")
104     if play_game == "Y":
105         game_on = True
106     else:
107         game_on = False
108
109 ## Game play
110
111     ### PLayer one turn
112
113     while game_on:
114         if turn == "Player 1":
115
116             # Show the board
117             display_board(the_board)
118
119             # Choose the position
120             position = player_choice(the_board)
121
122             # Place the marker on position
123             place_marker(the_board, player1_marker, position)
124
125             # Check if they won
126             if win_check(the_board,player1_marker):
127                 display_board(the_board)
```

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                print ("Player 1 has won!")
                game_on = False

            # Check if there's tie
            else:
                if full_board_check(the_board):
                    display_board(the_board)
                    print ("The game is tie!")
                    game_on = False
            # No tie and no win? Player 2 turn
                else:
                    turn = "Player 2"

        ### Player two turn

        else:
            # Show the board
            display_board(the_board)

            # Choose the position
            position = player_choice(the_board)

            # Place the marker on position
            place_marker(the_board, player2_marker, position)

            # Check if they won
            if win_check(the_board,player2_marker):
                display_board(the_board)
                print ("Player 2 has won!")
                game_on = False

            # Check if there's tie
            else:
                if full_board_check(the_board):
                    display_board(the_board)
                    print ("The game is tie!")
                    game_on = False
            # No tie and no win? Player 1 turn
                else:
                    turn = "Player 1"

    if not replay():
        break

# Break out of while loop by replay()
```