

## Toy Problem - Tic Toe Problem:

```
import os
import time
```

```
board = [' ',' ',' ',' ',' ',' ',' ',' ',' ',' ']
player = 1
```

```
#####win Flags#####
```

```
Win = 1
```

```
Draw = -1
```

```
Running = 0
```

```
Stop = 1
```

```
#####
```

```
Game = Running
```

```
Mark = 'X'
```

```
#This Function Draws Game Board
```

```
def DrawBoard():
```

```
    print(" %c | %c | %c " % (board[1],board[2],board[3]))
```

```
    print("____|____|____")
```

```
    print(" %c | %c | %c " % (board[4],board[5],board[6]))
```

```
    print("____|____|____")
```

```
    print(" %c | %c | %c " % (board[7],board[8],board[9]))
```

```
    print("  |  |  ")
```

```
#This Function Checks position is empty or not
```

```
def CheckPosition(x):
```

```
    if(board[x] == ' '):
```

```
        return True
```

```
    else:
```

```
        return False
```

```
#This Function Checks player has won or not
```

```
def CheckWin():
```

```
    global Game
```

```
    #Horizontal winning condition
```

```
    if(board[1] == board[2] and board[2] == board[3] and board[1] != ' '):
```

```
        Game = Win
```

```
    elif(board[4] == board[5] and board[5] == board[6] and board[4] != ' '):
```

```
        Game = Win
```

```

elif(board[7] == board[8] and board[8] == board[9] and board[7] != ' '):
    Game = Win
#Vertical Winning Condition
elif(board[1] == board[4] and board[4] == board[7] and board[1] != ' '):
    Game = Win
elif(board[2] == board[5] and board[5] == board[8] and board[2] != ' '):
    Game = Win
elif(board[3] == board[6] and board[6] == board[9] and board[3] != ' '):
    Game=Win
#Diagonal Winning Condition
elif(board[1] == board[5] and board[5] == board[9] and board[5] != ' '):
    Game = Win
elif(board[3] == board[5] and board[5] == board[7] and board[5] != ' '):
    Game=Win
#Match Tie or Draw Condition
elif(board[1]!=' ' and board[2]!=' ' and board[3]!=' ' and board[4]!=' ' and board[5]!=' '
and board[6]!=' ' and board[7]!=' ' and board[8]!=' ' and board[9]!=' '):
    Game=Draw
else:
    Game=Running

print("Tic-Tac-Toe Game Designed By Sourabh Somani")
print("Player 1 [X] --- Player 2 [O]\n")
print()
print()
print("Please Wait...")
time.sleep(3)
while(Game == Running):
    os.system('cls')
    DrawBoard()
    if(player % 2 != 0):
        print("Player 1's chance")
        Mark = 'X'
    else:
        print("Player 2's chance")
        Mark = 'O'
    choice = int(input("Enter the position between [1-9] where you want to mark : "))
    if(CheckPosition(choice)):
        board[choice] = Mark
        player+=1

```

CheckWin()

os.system('cls')

DrawBoard()

if(Game==Draw):

print("Game Draw")

elif(Game==Win):

player-=1

if(player%2!=0):

print("Player 1 Won")

else:

print("Player 2 Won")