# ----Global Variables----

# Game board

board = ["-", "-", "-",

"-", "-", "-",

"-", "-", "-"]

# If game is still going on

game\_still\_going = True

# Whose turn is it ?

current\_player = "X"

# Display board

def display\_board():

print(board[0] + " | " + board[1] + " | " + board[2])

print(board[3] + " | " + board[4] + " | " + board[5])

print(board[6] + " | " + board[7] + " | " + board[8])

# Play the game of tic tac toe

def play\_game():

# Display initial board

display\_board()

# While the game is still going on

while game\_still\_going:

# handle a single turn of an arbituray player

handle\_turn(current\_player)

# check if the game is over

check\_if\_game\_over()

# flip the player

flip\_player()

#The game has ended

# Handle the turn of an arbituray player

def handle\_turn(player):

print(player + "'s turn. ")

position = input("Choose a position from 1-9: ")

valid = False

while not valid:

while position not in ["1", "2", "3", "4", "5", "6", "7", "8", "9"]:

position = input("Invalid input. Choose a position from 1-9: ")

position = int(position) - 1

if board[position] == "-":

valid = True

else:

print("you can't go there.")

board[position] = player

display\_board()

def check\_if\_game\_over():

check\_for\_winner()

check\_if\_tie()

def check\_for\_winner():

#rows

rows\_winner = check\_rows()

#columns

columns\_winner = check\_columns()

#diagnols

diagnols\_winner = check\_diagnols()

def check\_rows():

# Set global variable

global game\_still\_going

# Check if any of the rows has same values

rows1 = board[0] == board[1] == board[2] != "-"

rows2 = board[3] == board[4] == board[5] != "-"

rows3 = board[6] == board[7] == board[8] != "-"

# If any of the rows above won ,set game\_still\_going to False so that it comes out of the while loop

if rows1 or rows2 or rows3:

game\_still\_going = False

if rows1:

if board[0] == "X":

print("X won")

elif board[0] == "O":

print("O won")

elif rows2:

if board[3] == "X":

print("X won")

elif board[3] == "O":

print("O won")

elif rows3:

if board[6] == "X":

print("X won")

elif board[6] == "O":

print("O won")

return

def check\_columns():

global game\_still\_going

columns1 = board[0] == board[3] == board[6] != "-"

columns2 = board[1] == board[4] == board[7] != "-"

columns3 = board[2] == board[5] == board[8] != "-"

if columns1 or columns2 or columns3:

game\_still\_going = False

if columns1:

if board[0] == "X":

print("X won")

elif board[0] == "O":

print("O won")

elif columns2:

if board[1] == "X":

print("X won")

elif board[1] == "O":

print("O won")

elif columns3:

if board[2] == "X":

print("X won")

elif board[2] == "O":

print("O won")

return

def check\_diagnols():

global game\_still\_going

diagnols1 = board[0] == board[4] == board[8] != "-"

diagnols2 = board[2] == board[4] == board[6] != "-"

if diagnols1 or diagnols2:

game\_still\_going = False

if diagnols1:

if board[0] == "X":

print("X won")

elif board[0] == "O":

print("O won")

elif diagnols2:

if board[6] == "X":

print("X won")

elif board[6] == "O":

print("O won")

return

def check\_if\_tie():

global game\_still\_going

if "-" not in board:

print("Tie.")

game\_still\_going = False

return

def flip\_player():

global current\_player

if current\_player == "X":

current\_player = "O"

elif current\_player == "O":

current\_player = "X"

return

play\_game()

# board

# display board

# play the game

# handle turn

# check for win

# check rows

# check columns

# check diagnols

# check tie

# flip player