TicTacToe Programming Process

Purely playing on terminal

1. Built the input file following tutorial (<https://www.youtube.com/watch?v=M3G1ZgOMFxo>)

# to generate random choice for CPU  
import random  
from tkinter.constants import BROWSE  
  
# for description at top  
print("Welcome to Tic Tac Toe!")  
print("DESCRIPTION: This is a small Python game I made bc coding is fun!")  
print("(▽◕ ᴥ ◕▽)")  
print("---------------------------------")  
  
# Creating first variable  
NumberChoices = [1,2,3,4,5,6,7,8,9] #creates array of 9 different spaces  
## using 2D array  
GameBoard = [[1,2,3], [4,5,6], [7,8,9]]  
rows = 3  
cols = 3  
  
# Creating a funct that will print out gameboard on command  
# Creating 2 for loops bc we have to loop through 2D of array  
def printGameBoard():  
 for x in range(rows):  
 print("\n+---+---+---+")  
 print("|", end="")  
 for y in range(cols):  
 print("",GameBoard[x][y], end=" |")  
 print("\n+---+---+---+")  
  
# for handing modification of gameboard  
def modifyArray(num, turn):  
 num -= 1  
 if(num == 0):  
 GameBoard[0][0] = turn  
 elif(num == 1):  
 GameBoard[0][1] = turn  
 elif(num == 2):  
 GameBoard[0][2] = turn  
 elif(num == 3):  
 GameBoard[1][0] = turn  
 elif (num == 4):  
 GameBoard[1][1] = turn  
 elif (num == 5):  
 GameBoard[1][2] = turn  
 elif (num == 6):  
 GameBoard[2][0] = turn  
 elif (num == 7):  
 GameBoard[2][1] = turn  
 elif (num == 8):  
 GameBoard[2][2] = turn  
  
def checkForWinner(GameBoard):  
 ## X axis  
 if(GameBoard[0][0] == 'X' and GameBoard[0][1] == 'X' and GameBoard[0][2] == 'X'):  
 print("X has Won the Game!!!")  
 return "X"  
 elif(GameBoard[0][0] == 'O' and GameBoard[0][1] == 'O' and GameBoard[0][2] == 'O'):  
 print("O has Won the Game!!!")  
 return "O"  
 ## Y axis  
 elif(GameBoard[0][0] == 'X' and GameBoard[1][0] == 'X' and GameBoard[2][0] == 'X'):  
 print("X has Won the Game!!!")  
 return "X"  
 elif (GameBoard[0][0] == 'O' and GameBoard[1][0] == 'O' and GameBoard[2][0] == 'O'):  
 print("O has Won the Game!!!")  
 return "O"  
 ## Z(across) axis  
 elif (GameBoard[0][0] == 'X' and GameBoard[1][1] == 'X' and GameBoard[2][2] == 'X'):  
 print("X has Won the Game!!!")  
 return "X"  
 elif (GameBoard[0][0] == 'O' and GameBoard[1][1] == 'O' and GameBoard[2][2] == 'O'):  
 print("O has Won the Game!!!")  
 return "O"  
  
# Defining more variables  
leaveLoop = False  
turnCounter = 0  
  
while(leaveLoop == False):  
 ## for player turn  
 if(turnCounter % 2 == 1):  
 printGameBoard()  
 numberPicked = int(input("\nChoose a number [1=9]: "))  
 if(numberPicked >=1 or numberPicked <= 9):  
 modifyArray(numberPicked,'X') #CANNOT GET RID OF TURN:  
 NumberChoices.remove(numberPicked)  
 else:  
 print("Invalid input. Please try again.")  
 turnCounter += 1  
 ## Computer's turn  
 else:  
 while(True):  
 cpuChoice = random.choice(NumberChoices)  
 print("\nCPU choice: ", cpuChoice)  
 if(cpuChoice in NumberChoices):  
 modifyArray(cpuChoice, '0')  
 NumberChoices.remove(cpuChoice)  
 turnCounter += 1  
 break

Test 1: played as X. Won but did not show.

What I did:

1. Added completed the checkForWinner loop and called it at the end and it fixed!
2. # to generate random choice for CPU  
   import random  
     
   from pkg\_resources import non\_empty\_lines  
     
   # for description at top  
   print("Welcome to Tic Tac Toe!")  
   print("DESCRIPTION: This is a small Python game I made bc coding is fun!")  
   print("(▽◕ ᴥ ◕▽)")  
   print("---------------------------------")  
     
   # Creating first variable  
   NumberChoices = [1,2,3,4,5,6,7,8,9] #creates array of 9 different spaces  
   ## using 2D array  
   GameBoard = [[1,2,3], [4,5,6], [7,8,9]]  
   rows = 3  
   cols = 3  
     
   # Creating a funct that will print out gameboard on command  
   # Creating 2 for loops bc we have to loop through 2D of array  
   def printGameBoard():  
    for x in range(rows):  
    print("\n+---+---+---+")  
    print("|", end="")  
    for y in range(cols):  
    print("",GameBoard[x][y], end=" |")  
    print("\n+---+---+---+")  
     
   # for handing modification of gameboard  
   def modifyArray(num, turn):  
    num -= 1  
    if(num == 0):  
    GameBoard[0][0] = turn  
    elif(num == 1):  
    GameBoard[0][1] = turn  
    elif(num == 2):  
    GameBoard[0][2] = turn  
    elif(num == 3):  
    GameBoard[1][0] = turn  
    elif (num == 4):  
    GameBoard[1][1] = turn  
    elif (num == 5):  
    GameBoard[1][2] = turn  
    elif (num == 6):  
    GameBoard[2][0] = turn  
    elif (num == 7):  
    GameBoard[2][1] = turn  
    elif (num == 8):  
    GameBoard[2][2] = turn  
     
   def checkForWinner(GameBoard):  
    ## X axis  
    if(GameBoard[0][0] == 'X' and GameBoard[1][0] == 'X' and GameBoard[2][0] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif(GameBoard[0][0] == 'O' and GameBoard[1][0] == 'O' and GameBoard[2][0] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    elif (GameBoard[0][1] == 'X' and GameBoard[1][1] == 'X' and GameBoard[2][1] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[0][1] == 'O' and GameBoard[1][1] == 'O' and GameBoard[2][1] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    elif (GameBoard[0][2] == 'X' and GameBoard[1][2] == 'X' and GameBoard[2][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[0][2] == 'O' and GameBoard[1][2] == 'O' and GameBoard[2][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    ## Y axis  
    elif(GameBoard[0][0] == 'X' and GameBoard[0][1] == 'X' and GameBoard[0][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[0][0] == 'O' and GameBoard[0][1] == 'O' and GameBoard[0][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    elif (GameBoard[1][0] == 'X' and GameBoard[1][1] == 'X' and GameBoard[1][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[1][0] == 'O' and GameBoard[1][1] == 'O' and GameBoard[1][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    elif (GameBoard[2][0] == 'X' and GameBoard[2][1] == 'X' and GameBoard[2][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[2][0] == 'O' and GameBoard[2][1] == 'O' and GameBoard[2][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    ## Z(across) axis  
    elif (GameBoard[0][0] == 'X' and GameBoard[1][1] == 'X' and GameBoard[2][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[0][0] == 'O' and GameBoard[1][1] == 'O' and GameBoard[2][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    elif (GameBoard[2][0] == 'X' and GameBoard[1][1] == 'X' and GameBoard[0][2] == 'X'):  
    print("X has Won the Game!!!")  
    return "X"  
    elif (GameBoard[2][0] == 'O' and GameBoard[1][1] == 'O' and GameBoard[0][2] == 'O'):  
    print("O has Won the Game!!!")  
    return "O"  
    return None  
     
   # Defining more variables  
   leaveLoop = False  
   turnCounter = 0  
     
   while(leaveLoop == False):  
    #printGameBoard()  
    ## for player turn  
    if(turnCounter % 2 == 1):  
    printGameBoard()  
    numberPicked = int(input("\nChoose a number [1=9]: "))  
    if(numberPicked >=1 or numberPicked <= 9):  
    modifyArray(numberPicked,'X') #CANNOT GET RID OF TURN:  
    NumberChoices.remove(numberPicked)  
    turnCounter += 1 # Increment turn only on valid input  
    else:  
    print("Invalid input. Please try again.")  
    continue  
    #turnCounter += 1  
    ## Computer's turn  
    else:  
    while(True):  
    cpuChoice = random.choice(NumberChoices)  
    print("\nCPU choice: ", cpuChoice)  
    if(cpuChoice in NumberChoices):  
    modifyArray(cpuChoice, 'O')  
    NumberChoices.remove(cpuChoice)  
    turnCounter += 1  
    break  
    winner = checkForWinner(GameBoard)  
    if winner:  
    leaveLoop = True  
     
   printGameBoard()  
   print("Game Over!")