UNIVERSITY OF WESTMINSTER

INFORMATICS INSTITUTE OF TECHNOLOGY

Informatics Institute of Technology
Business School
Assignment Cover Sheet
DOC334

Course:	**Foundation Certificate Programme**
Unit Code and Description:	**DOC334 Introduction to Programming in Python – P2**
Module Leader:	**Prof. Damitha D Karunaratna**
Assignment Number:	**1**
Assignment Type:	**Individual Coursework (ICW)**
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Qualifying mark:	**40%**
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1.Question 1

1.1 Problem

We have to create a console Python 3.x program which will allow users to demonstrate the two-player game called “Noughts and Crosses”. This game is also known as “tic-tac-toe”. Two human players must be able to play this game (namely Player 1 and Player 2) and we must create a Python program which runs in the console

1.2 Problem understanding

• Firstly, we have to think the board of the game how will look likes. A player who can place 3 of his/her symbols diagonally, horizontally, or vertically in a row; before the other player is the winner of the game, and If both players failed to draw 3 of his/her symbols in a row (diagonally, horizontally, or vertically) the game is a draw. So, we have to create python code to check this winner who will be. Simply we can do this using if .. else or elif. After that our job is show that game history. So, we have to create a database and a table to do that. After done that part we can simply show that history of the game easily. Then finally we have to display that game result (Game played boards) in to a HTML file.

1.4 Python code

```
 # Create variables
i = 0
count = 0
checker = 0
check_counter = 0
x = 0
y = 0
winner = ""
dict1 = {1: ' ', 2: ' ', 3: ' ', 4: ' ', 5: ' ', 6: ' ', 7: ' ', 8: ' ', 9: ' '}



# The main menu of the game
def displaymenu():
    "This will display the menu"
    print("=======Menu=======")
```

```
    print("1.Game instructions")
    print("2.Start the game")
    print("3.Play again")
    print("4.Full game history")
    print("5.Total game plays")
    print("6.Total wins by player 1")
    print("7.Total wins by player 2")
    print("8.Total draws")
    print("9.Quit")

    option = int(input("Enter your choice ->"))
    return option

#The main game instructions that user have to follow when playing this game.
def instructions():
    "This will show the gaming instructions"
    print("1.You can enter location by numbers.")
    print("2.Don't enter same location again.")
    return



# Normal board structure.
def stucture_of_the_Board():
    "The stucture of the board"
    print(" " + "|" + " " + "|" + " ")
    print("_ _ _ ")
    print(" " + "|" + " " + "|" + " ")
    print("_ _ _ ")
    print(" " + "|" + " " + "|" + " ")
    return

# This will print the actual board
def printboard():
    "This will print the board"
```

```
    # Print board
    print(dict1[1] + "|" + dict1[2] + "|" + dict1[3])
    print("_ _ _")
    print(dict1[4] + "|" + dict1[5] + "|" + dict1[6])
    print("_ _ _")
    print(dict1[7] + "|" + dict1[8] + "|" + dict1[9])
    return


#Getting user inputs and the main statements to dicide who is the winner of the game. Also this will print the board of the game.
def maninbody():
    "The main statements"
    global x
    global y
    global count
    global i
    while i != 5:
        player_1_choice = int(input("Player 1 input your choice ->"))
        i += 1

        dict1[player_1_choice] = ("X")
        printboard()

        #This will check the diagonally winner

        if dict1[1] == dict1[5] == dict1[9] == "X":
            print("The winner is player 1 ")
            x = 2

        elif dict1[1] == dict1[5] == dict1[9] == "O":
            print("The winner is player 2 ")
            y = 2
        elif dict1[3] == dict1[5] == dict1[7] == "X":
            print("The winner is player 1 ")
```

```
    x = 2

elif dict1[3] == dict1[5] == dict1[7] == "O":
    print("The winner is player 2 ")
    y = 2


# This will check the horizontally winner
# The winner is player1
elif dict1[1] == dict1[2] == dict1[3] == "X":
    print("The winner is player 1 ")
    x = 2


elif dict1[4] == dict1[5] == dict1[6] == "X":
    print("The winner is player 1 ")
    x = 2


elif dict1[7] == dict1[8] == dict1[9] == "X":
    print("The winner is player 1 ")
    x = 2


# The winner is player2
elif dict1[1] == dict1[2] == dict1[3] == "O":
    print("The winner is player 2 ")
    y = 2


elif dict1[4] == dict1[5] == dict1[6] == "O":
    print("The winner is player 2 ")
    y = 2
```

```
elif dict1[7] == dict1[8] == dict1[9] == "O":
    print("The winner is player 2 ")
    y = 2


# This will check the vertically winner
# The winner is player1
elif dict1[1] == dict1[4] == dict1[7] == "X":
    print("The winner is player 1 ")
    x = 2


elif dict1[2] == dict1[5] == dict1[8] == "X":
    print("The winner is player 1 ")
    x = 2


elif dict1[3] == dict1[6] == dict1[9] == "X":
    print("The winner is player 1 ")
    x = 2


# The winner is player2
elif dict1[1] == dict1[4] == dict1[7] == "O":
    print("The winner is player 2 ")
    y = 2


elif dict1[2] == dict1[5] == dict1[8] == "O":
    print("The winner is player 2 ")
    y = 2


elif dict1[3] == dict1[6] == dict1[9] == "O":
    print("The winner is player 2 ")
```

```
    y = 2

if (x == 2) or (y == 2):
    break
elif count < 4:
    player_2_choice = int(input("Player 2 input your choice ->"))

    dict1[player_2_choice] = ("O")
    printboard()
    count = count + 1
    # This will check the diagonally winner
    if dict1[1] == dict1[5] == dict1[9] == "X":
        print("The winner is player 1 ")
        x = 2

    elif dict1[1] == dict1[5] == dict1[9] == "O":
        print("The winner is player 2 ")
        y = 2
    elif dict1[3] == dict1[5] == dict1[7] == "X":
        print("The winner is player 1 ")
        x = 2

    elif dict1[3] == dict1[5] == dict1[7] == "O":
        print("The winner is player 2 ")
        y = 2


    # This will check the horizontally winner
    # The winner is player1
    elif dict1[1] == dict1[2] == dict1[3] == "X":
        print("The winner is player 1 ")
        x = 2


    elif dict1[4] == dict1[5] == dict1[6] == "X":
```

```
    print("The winner is player 1 ")
    x = 2


elif dict1[7] == dict1[8] == dict1[9] == "X":
    print("The winner is player 1 ")
    x = 2


# The winner is player2
elif dict1[1] == dict1[2] == dict1[3] == "O":
    print("The winner is player 2 ")
    y = 2


elif dict1[4] == dict1[5] == dict1[6] == "O":
    print("The winner is player 2 ")
    y = 2


elif dict1[7] == dict1[8] == dict1[9] == "O":
    print("The winner is player 2 ")
    y = 2


# This will check the vertically winner
# The winner is player1
elif dict1[1] == dict1[4] == dict1[7] == "X":
    print("The winner is player 1 ")
    x = 2


elif dict1[2] == dict1[5] == dict1[8] == "X":
    print("The winner is player 1 ")
    x = 2
```

```
            elif dict1[3] == dict1[6] == dict1[9] == "X":
                print("The winner is player 1 ")
                x = 2


            # The winner is player2
            elif dict1[1] == dict1[4] == dict1[7] == "O":
                print("The winner is player 2 ")
                y = 2


            elif dict1[2] == dict1[5] == dict1[8] == "O":
                print("The winner is player 2 ")
                y = 2


            elif dict1[3] == dict1[6] == dict1[9] == "O":
                print("The winner is player 2 ")
                y = 2

            if (x == 2) or (y == 2):
                break
        else:
            print("The game is tie")
            return

def html_file():
    "This will print the game boards to the HTML file"

    fo = open("HTML.htm", "a+")
    if dict1[1]== ' ' :
        dict1[1] = "  "
    if dict1[2]== " ":
```

```
    dict1[2] = "  "
if dict1[3]== ' ' :
    dict1[3] = "  "
if dict1[4]==' ' :
    dict1[4] = "  "
if dict1[5]== ' ':
    dict1[5] = "  "
if dict1[6]==  ' ':
    dict1[6] = "  "
if dict1[7]==  ' ':
    dict1[7] = "  "
if dict1[8]== ' ' :
    dict1[8] = "  "
if dict1[9]== ' ' :
    dict1[9] = "  "



fo.writelines(["<html>","\n","<br />\n"])
fo.writelines([dict1[1] + "|" + dict1[2] + "|" + dict1[3]])
fo.writelines(["\n","<br />\n"])
fo.writelines("_ _ _")
fo.writelines(["\n","<br />\n"])
fo.writelines([dict1[4] + "|" + dict1[5] + "|" + dict1[6]])
fo.writelines(["\n","<br />\n"])
fo.writelines("_ _ _")
fo.writelines(["\n","<br />\n"])
fo.writelines([dict1[7] + "|" + dict1[8] + "|" + dict1[9]])
fo.writelines(["\n","<br />\n","</html>"])



if x == 2:
    fo.writelines('The winner is player1')
    fo.writelines(["\n","<br />\n"])
if y == 2:
```

```
        fo.writelines('The winner is player2')
        fo.writelines(["\n","<br />\n"])
    if x != 2 and y != 2:
        fo.writelines('The game is tie')
        fo.writelines(["\n","<br />\n"])
        return

def create_tables():
    import mysql.connector
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}
    db = mysql.connector.connect(**conDict)
    cursor = db.cursor()

    cursor.execute('''CREATE TABLE Game(
        player1_wins CHAR(20) ,
        player2_wins CHAR(20),
        defeated_player1 CHAR(20),
        defeated_player2 CHAR(20),
        tieGames CHAR(20)
    )''')
    db.close()
    return ()


def insert_values1():
    "This will insert values to the database"
    import mysql.connector

    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
```

```
            'password': ''}

    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
    mySQLText = "INSERT INTO game_history (player1_wins,player2_wins,defeated_player1,defeated_player2,tieGames) VALUES (%s,%s,%s,%s,%s)"
    myValues = ("The winner is player1", "NULL", "NULL", "The looser is player2", "NULL")
    cursor.execute(mySQLText, myValues)

    # Commit the change
    db.commit()

    # disconnect from server
    db.close()
    return ()

def insert_values2():
    "This will insert values to the database"
    import mysql.connector

    # open database connection with a dictionary
    conDict = {'host': 'localhost',
            'database': 'Game',
            'user': 'root',
            'password': ''}

    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
```

```
    cursor = db.cursor()

    # execute sql query using execute()method
    mySQLText = "INSERT INTO game_history (player1_wins,player2_wins,defeated_player1,defeated_player2,tieGames) VALUES (%s,%s,%s,%s,%s)"
    myValues = ("NULL", "The winner is player2", "The looser is player1", "NULL", "NULL")
    cursor.execute(mySQLText, myValues)

    # Commit the change
    db.commit()

    # disconnect from server
    db.close()
    return ()



def insert_values3():
    "This will insert values to the database"
    import mysql.connector

    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}

    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
```

```
    mySQLText = "INSERT INTO game_history (player1_wins,player2_wins,defeated_player1,defeated_player2,tieGames) VALUES (%s,%s,%s,%s,%s)"
    myValues = ("NULL", "NULL", "NULL", "NULL", "The game is tie")
    cursor.execute(mySQLText, myValues)

    # Commit the change
    db.commit()

    # disconnect from server
    db.close()
    return ()



def display_history():
    "This will display the history of the game"
    import mysql.connector
    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}

    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
    cursor.execute("SELECT* FROM game_history")

    data = cursor.fetchall()
    #This will give the game no (What is this game no ) and full history
    for row, item in enumerate(data):
        row += 1
```

```
        print("In Game" + " " + str(row) + ")""->", item)
    return


def total_game_plays():
    "This will display the total number of games played by the user"
    import mysql.connector

    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}
    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
    cursor.execute("SELECT* FROM game_history")

    data = cursor.fetchall()

    #This will give the total of the games that user played
    for row, item in enumerate(data):
        row += 1
    print("Total game plays" + "-> " + str(row))
    return


def total_wins_by_player1():
    "This will show the player1 wins"
    import mysql.connector

    # open database connection with a dictionery
```

```
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}
    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
    cursor.execute("SELECT player1_wins FROM game_history")

    data = cursor.fetchall()
    #This will give the game no (What is this game no ) and player1 wins history
    for row, item in enumerate(data):
       row += 1
       print("In Game" + " " + str(row) + ")""->", item)
    return


def total_wins_by_player2():
    "This will show the player2 wins"
    import mysql.connector

    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}
    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
```

```
    cursor.execute("SELECT player2_wins FROM game_history ")

    data = cursor.fetchall()

    #This will give the game no (What is this game no ) and player2 wins history
    for row, item in enumerate(data):
        row += 1
        print("In Game" + " " + str(row) + ")""->", item)
    return


def total_draws():
    "This will show all the tie games"

    import mysql.connector

    # open database connection with a dictionery
    conDict = {'host': 'localhost',
               'database': 'Game',
               'user': 'root',
               'password': ''}
    db = mysql.connector.connect(**conDict)

    # prepare a cursor object using cursor() method
    cursor = db.cursor()

    # execute sql query using execute()method
    cursor.execute("SELECT tieGames FROM game_history")

    data = cursor.fetchall()
     #This will give the game no (What is this game no ) and tie games history
    for row, item in enumerate(data):
        row += 1
        print("In Game" + " " + str(row) + ")""->", item)
    return
```

```
while True:
    #This will show the details that related to the menu
    option = displaymenu()

    if option == 9:
        break

    elif option == 1:
        instructions()

    elif option == 2:
        stucture_of_the_Board()
        maninbody()
        if x == 2:
            insert_values1()
        if y == 2:
            insert_values2()
        if x != 2 and y != 2:
            insert_values3()
        html_file()

    elif option == 3:
        stucture_of_the_Board()
        for key in dict1:
            dict1[key] = " "
        x = 0
        y = 0
        i = 0
        count = 0
        maninbody()
        html_file()

        if x == 2:
```

```
            insert_values1()
        if y == 2:
            insert_values2()
        if x != 2 and y != 2:
            insert_values3()

elif option == 4:
    display_history()

elif option == 5:
    total_game_plays()

elif option == 6:
    total_wins_by_player1()

elif option == 7:
    total_wins_by_player2()

elif option == 8:
    total_draws()
```

1.5 Desk check

Test case #	Inputs	Expected output	Actual output	Remarks
1	Type the the number two in the menu of the program and insert the values as 1,4,2,5,3	The winner is player 1	The winner is player 1	Pass
2	Type the the number three in the menu of the program and insert the values as 1,2,5,6,9	The winner is player 1	The winner is player 1	Pass
3	Type the the number three in the menu of the program and insert the values as 3,2,5,6,7	The winner is player 1	The winner is player 1	Pass
4	Type the the number three in the menu of the program and insert the values as 4,1,5,2,7,3	The winner is player 2	The winner is player 2	Pass

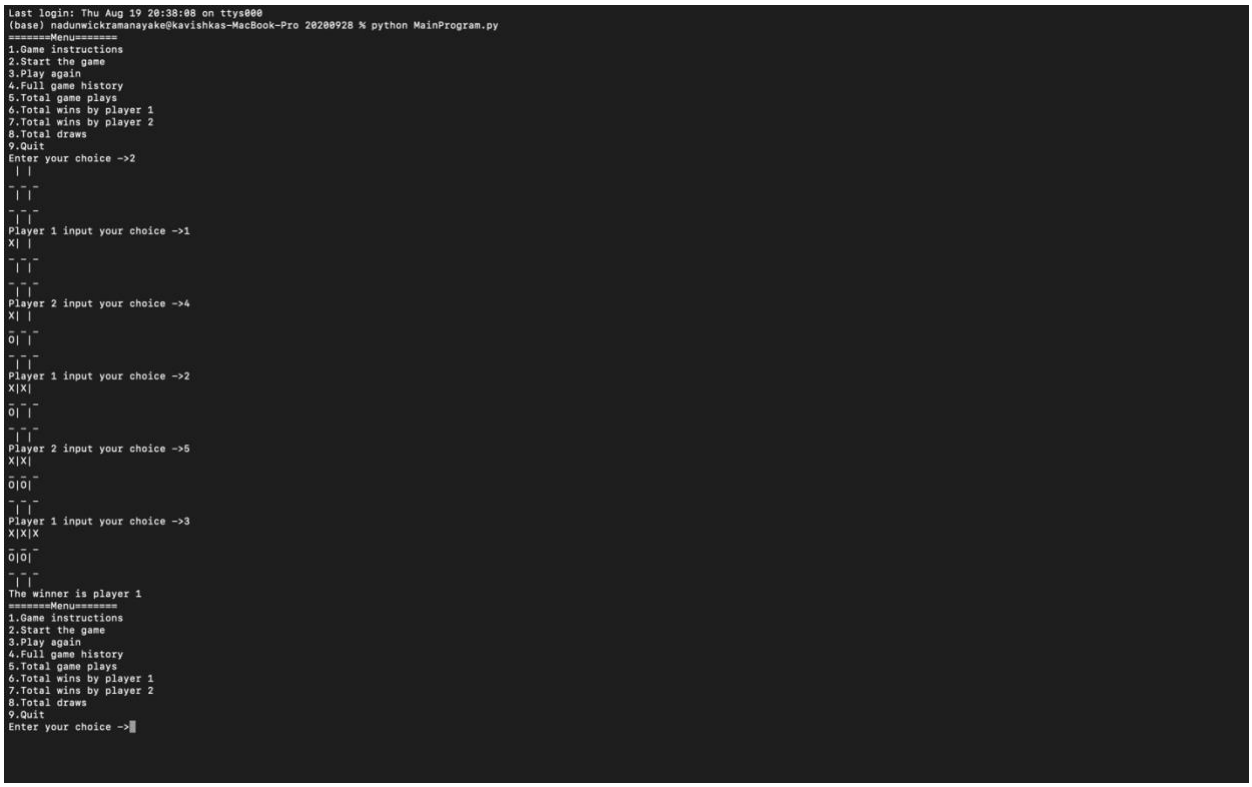
Test case #	Inputs	Expected output	Actual output	Remarks
5	Type the the number three in the menu of the program and insert the values as 1,3,4,5,6,7	The winner is player 2	The winner is player 2	Pass
6	Type the the number three in the menu of the program and insert the values as 2,1,4,5,8,9	The winner is player 2	The winner is player 2	Pass
7	Type the the number three in the menu of the program and insert the values as 1,3,4,5,7	The winner is player 1	The winner is player 1	Pass
8	Type the the number three in the menu of the program and insert the values as 2,4,3,5,8,6	The winner is player 2	The winner is player 2	Pass

Test case #	Inputs	Expected output	Actual output	Remarks
9	Type the the number two in th e menu of the program and insert the values as 2,7,5,8,6,9	The winner is player 2	The winner is player 2	Pass
10	Type the the number three in th e menu of the program and insert the values as 3,1,4,2,5,6,8,7,9	The game is tie	The game is tie	Pass
11	Type the number 4 to get full game history	In Game 1)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL') In Game 2)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')	In Game 1)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL') In Game 2)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')	Pass
12	Type the number 5 to get total number of games played	Total game plays-> 13	Total game plays-> 13	Pass

Test case #	Inputs	Expected output	Actual output	Remarks
13	Type the number 6 to get total wins by player1	In Game 1)-> ('NULL',) In Game 2)-> ('The winner is player1',) In Game 3)-> ('The winner is player1',)	In Game 1)-> ('NULL',) In Game 2)-> ('The winner is player1',) In Game 3)-> ('The winner is player1',)	Pass
14	Type the number 6 to get total wins by player1	In Game 1)-> ('The winner is player2',) In Game 2)-> ('NULL',) In Game 3)-> ('NULL',)	In Game 1)-> ('The winner is player2',) In Game 2)-> ('NULL',) In Game 3)-> ('NULL',)	Pass
15	Type the number 8 to get total wins by player1	In Game 13)-> ('NULL',) In Game 14)-> ('The game is tie',)	In Game 13)-> ('NULL',) In Game 14)-> ('The game is tie',)	Pass

16	Type the number 1 to get game instructions.	1.You can enter location by numbers. 2.Don't enter same location again.	1.You can enter location by numbers. 2.Don't enter same location again.	Pass
Test case #	Inputs	Expected output	Actual output	Remarks
17	Type 9 to exit	The program will stop	The program will stop	Pass

1.6 Test cases photos


Last login: Thu Aug 19 20:38:08 on ttys000
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 % python MainProgram.py
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->2
Player 1 input your choice ->1
Player 2 input your choice ->4
Player 1 input your choice ->2
Player 2 input your choice ->5
Player 1 input your choice ->3
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->

```
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 %
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 %
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 %
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 % python MainProgram.py

=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->2
 | |
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->1
X| |
_ _ _
 | |
_ _ _
 | |
Player 2 input your choice ->2
X|O|
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->5
X|O|
_ _ _
 |X|
_ _ _
 | |
Player 2 input your choice ->6
X|O|
_ _ _
 |X|O
_ _ _
 | |
Player 1 input your choice ->9
X|O|
_ _ _
 |X|O
_ _ _
 | |X
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
/usr/bin/Type: line 4: type: values: not found
as is /usr/bin/as
/usr/bin/Type: line 4: type: 1,2,5,6,9: not found
(base) nadunwickramanayake@kavishkas-MacBook-Pro 20200928 % python MainProgram.py

=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->3
 | |X
_ _ _
 | |
_ _ _
 | |
Player 2 input your choice ->2
 |O|X
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->5
 |O|X
_ _ _
 |X|
_ _ _
 | |
Player 2 input your choice ->6
 |O|X
_ _ _
 |X|O
_ _ _
 | |
Player 1 input your choice ->7
 |O|X
_ _ _
 |X|O
_ _ _
X| |
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```


Player 2 input your choice ->6
|O|X
|X|O
Player 1 input your choice ->7
|O|X
|X|O
X| |
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
Player 1 input your choice ->3
| |X
Player 2 input your choice ->2
|O|X
Player 1 input your choice ->5
|O|X
|X|
Player 2 input your choice ->6
|O|X
|X|O
Player 1 input your choice ->7
|O|X
|X|O
X| |
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game

```
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->2
 |X|
_ _ _
 | |
_ _ _
 | |
Player 2 input your choice ->1
O|X|
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->4
O|X|
_ _ _
X| |
_ _ _
 | |
Player 2 input your choice ->5
O|X|
_ _ _
X|O|
_ _ _
 | |
Player 1 input your choice ->8
O|X|
_ _ _
X|O|
_ X _
 |X|
Player 2 input your choice ->9
O|X|
_ _ _
X|O|
_ X _
 |X|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->4
 | |
_ _ _
X| |
_ _ _
 | |
Player 2 input your choice ->1
O| |
_ _ _
X| |
_ _ _
 | |
Player 1 input your choice ->5
O| |
_ _ _
X|X|
_ _ _
 | |
Player 2 input your choice ->2
O|O|
_ _ _
X|X|
_ _ _
 | |
Player 1 input your choice ->7
O|O|
_ _ _
X|X|
_ _ _
X| |
Player 2 input your choice ->3
O|O|O
_ _ _
X|X|
_ _ _
X| |
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
 _ _ _
X|O|
 _ _ _
X| |
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
 _ _ _
 | |
 _ _ _
 | |
Player 1 input your choice ->4
 | |
 _ _ _
X| |
 _ _ _
 | |
Player 2 input your choice ->9
 | |
 _ _ _
X| |
 _ _ _
 | |O
Player 1 input your choice ->5
 | |
 _ _ _
X|X|
 _ _ _
 | |O
Player 2 input your choice ->8
 | |
 _ _ _
X|X|
 _ _ _
 |O|O
Player 1 input your choice ->6
 | |
 _ _ _
X|X|X
 _ _ _
 |O|O
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
 _ _ _
X|X|X
 _ _ _
 |O|O
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
 _ _ _
 | |
 _ _ _
 | |
Player 1 input your choice ->7
 | |
 _ _ _
 | |
 _ _ _
X| |
Player 2 input your choice ->1
O| |
 _ _ _
 | |
 _ _ _
X| |
Player 1 input your choice ->8
O| |
 _ _ _
 | |
 _ _ _
X|X|
Player 2 input your choice ->3
O| |O
 _ _ _
 | |
 _ _ _
X|X|
Player 1 input your choice ->9
O| |O
 _ _ _
 | |
 _ _ _
X|X|X
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
  |  |
_ _ _
  |  |
_ _ _
  |  |
Player 1 input your choice ->2
  |X|
_ _ _
  |  |
_ _ _
  |  |
Player 2 input your choice ->4
  |X|
_ _ _
O|  |
_ _ _
  |  |
Player 1 input your choice ->3
  |X|X
_ _ _
O|  |
_ _ _
  |  |
Player 2 input your choice ->5
  |X|X
_ _ _
O|O|
_ _ _
  |  |
Player 1 input your choice ->8
  |X|X
_ _ _
O|O|
_ _ _
  |X|
Player 2 input your choice ->6
  |X|X
_ _ _
O|O|O
_ _ _
  |X|
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
  |  |
_ _ _
  |  |
_ _ _
  |  |
Player 1 input your choice ->2
  |X|
_ _ _
  |  |
_ _ _
  |  |
Player 2 input your choice ->7
  |X|
_ _ _
  |  |
_ _ _
O|  |
Player 1 input your choice ->5
  |X|
_ _ _
  |X|
_ _ _
O|  |
Player 2 input your choice ->8
  |X|
_ _ _
  |X|
_ _ _
O|O|
Player 1 input your choice ->6
  |X|
_ _ _
  |X|X
_ _ _
O|O|
Player 2 input your choice ->9
  |X|
_ _ _
  |X|X
_ _ _
O|O|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
 _ _ _
 | | |
Player 1 input your choice ->2
 |X|
 _ _ _
 | |
 _ _ _
 | |
Player 2 input your choice ->7
 |X|
 _ _ _
 | |
 _ _ _
O| |
Player 1 input your choice ->5
 |X|
 _ _ _
 |X|
 _ _ _
O| |
Player 2 input your choice ->8
 |X|
 _ _ _
 |X|
 _ _ _
O|O|
Player 1 input your choice ->6
 |X|
 _ _ _
 |X|X
 _ _ _
O|O|
Player 2 input your choice ->9
 |X|
 _ _ _
 |X|X
 _ _ _
O|O|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->1
1.You can enter location by numbers.
2.Don't enter same location again.
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

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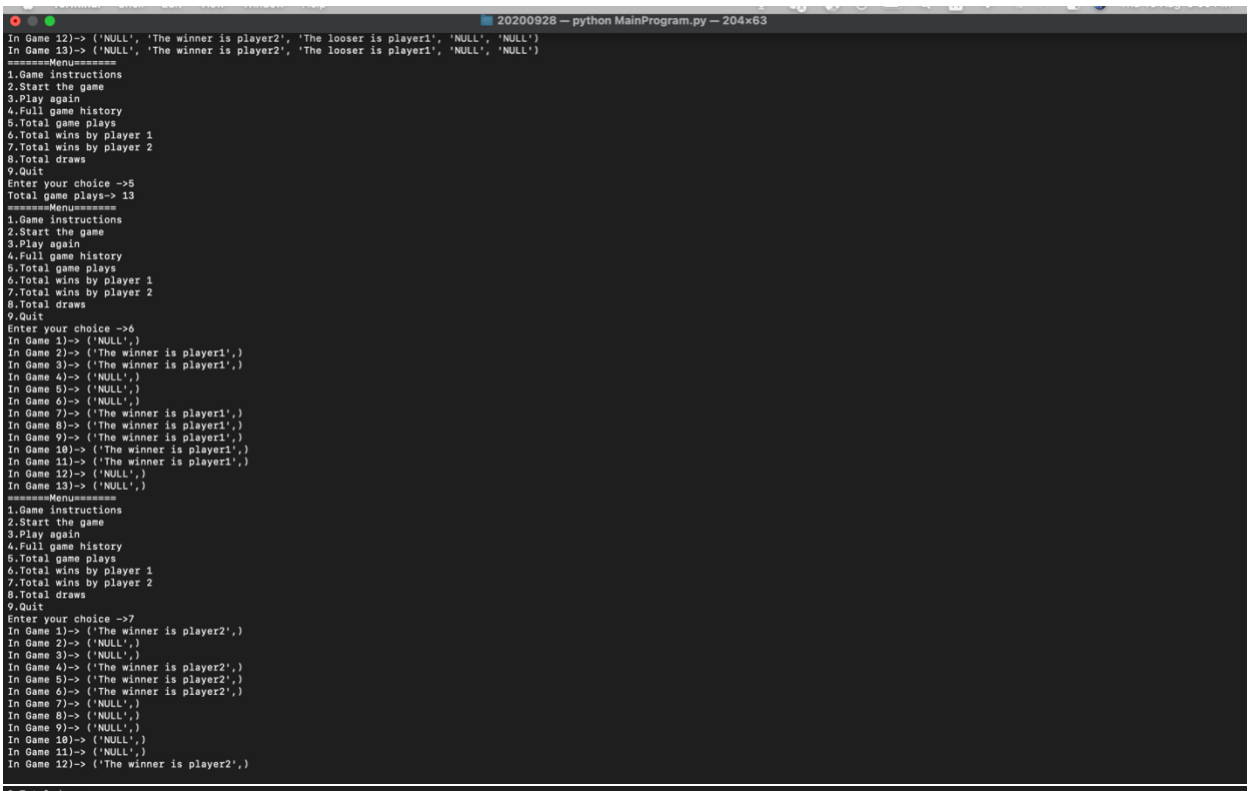
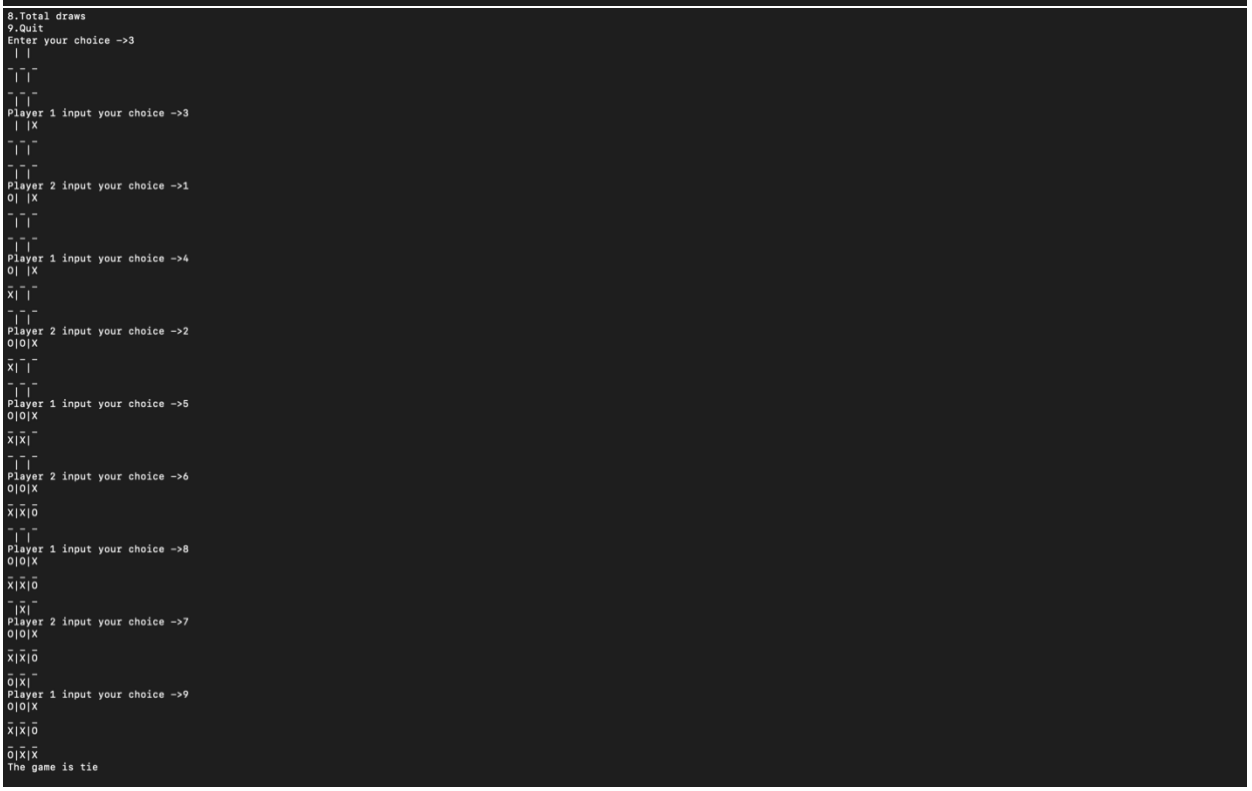
 _ _ _
O| |
Player 2 input your choice ->8
 |X|
 _ _ _
 |X|
 _ _ _
O|O|
Player 1 input your choice ->6
 |X|
 _ _ _
 |X|X
 _ _ _
O|O|
Player 2 input your choice ->9
 |X|
 _ _ _
 |X|X
 _ _ _
O|O|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->1
1.You can enter location by numbers.
2.Don't enter same location again.
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->4
In Game 1)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 2)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 3)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 4)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 5)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 6)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 7)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 8)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 9)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 10)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 11)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 12)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 13)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
```

```
 _ _
O|O|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->1
1.You can enter location by numbers.
2.Don't enter same location again.
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->4
In Game 1)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 2)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 3)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 4)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 5)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 6)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 7)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 8)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 9)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 10)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 11)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 12)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 13)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->5
Total game plays-> 13
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```

```
8.Total draws
9.Quit
Enter your choice ->4
In Game 1)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 2)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 3)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 4)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 5)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 6)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 7)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 8)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 9)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 10)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 11)-> ('The winner is player1', 'NULL', 'NULL', 'The looser is player2', 'NULL')
In Game 12)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 13)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->5
Total game plays-> 13
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->6
In Game 1)-> ('NULL',)
In Game 2)-> ('The winner is player1',)
In Game 3)-> ('The winner is player1',)
In Game 4)-> ('NULL',)
In Game 5)-> ('NULL',)
In Game 6)-> ('NULL',)
In Game 7)-> ('The winner is player1',)
In Game 8)-> ('The winner is player1',)
In Game 9)-> ('The winner is player1',)
In Game 10)-> ('The winner is player1',)
In Game 11)-> ('The winner is player1',)
In Game 12)-> ('NULL',)
In Game 13)-> ('NULL',)
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->
```


20200928 — python MainProgram.py — 204×63
In Game 12)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
In Game 13)-> ('NULL', 'The winner is player2', 'The looser is player1', 'NULL', 'NULL')
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->5
Total game plays-> 13
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->6
In Game 1)-> ('NULL',)
In Game 2)-> ('The winner is player1',)
In Game 3)-> ('The winner is player1',)
In Game 4)-> ('NULL',)
In Game 5)-> ('NULL',)
In Game 6)-> ('NULL',)
In Game 7)-> ('The winner is player1',)
In Game 8)-> ('The winner is player1',)
In Game 9)-> ('The winner is player1',)
In Game 10)-> ('The winner is player1',)
In Game 11)-> ('The winner is player1',)
In Game 12)-> ('NULL',)
In Game 13)-> ('NULL',)
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->7
In Game 1)-> ('The winner is player2',)
In Game 2)-> ('NULL',)
In Game 3)-> ('NULL',)
In Game 4)-> ('The winner is player2',)
In Game 5)-> ('The winner is player2',)
In Game 6)-> ('The winner is player2',)
In Game 7)-> ('NULL',)
In Game 8)-> ('NULL',)
In Game 9)-> ('NULL',)
In Game 10)-> ('NULL',)
In Game 11)-> ('NULL',)
In Game 12)-> ('The winner is player2',)


8.Total draws
9.Quit
Enter your choice ->3
Player 1 input your choice ->3
Player 2 input your choice ->1
Player 1 input your choice ->4
Player 2 input your choice ->2
Player 1 input your choice ->5
Player 2 input your choice ->6
Player 1 input your choice ->8
Player 2 input your choice ->7
Player 1 input your choice ->9
The game is tie


_ _ _
X|O|
_ _ _
 |X|O
The winner is player 2
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->3
 | |
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->1
X| |
_ _ _
 | |
_ _ _
 | |
Player 2 input your choice ->3
X| |O
_ _ _
 | |
_ _ _
 | |
Player 1 input your choice ->4
X| |O
_ _ _
X| |
_ _ _
 | |
Player 2 input your choice ->5
X| |O
_ _ _
X|O|
_ _ _
 | |
Player 1 input your choice ->7
X| |O
_ _ _
X|O|
_ _ _
X| |
The winner is player 1
=======Menu=======
1.Game instructions
2.Start the game
3.Play again
4.Full game history
5.Total game plays
6.Total wins by player 1
7.Total wins by player 2
8.Total draws
9.Quit
Enter your choice ->