

Experiment-12: Tic-Tac-Toe

Aim:

To Print Python Program to implement Tic-Tac-Toe.

Program:

```
import os
import time
```

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

```
# Win Flags
```

```
Win = 1
```

```
Draw = -1
```

```
Running = 0
```

```
Stop = 1
```

```
Game = Running
```

```
Mark = 'X'
```

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

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

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

```
        return True
```

```
    else:
```

```
        return False
```

```

def CheckWin():
    global Game

    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
    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
    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
    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")
```

OUTPUT:

Player 1 [X] --- Player 2 [O]

Please Wait...

| | | |
|--|--|--|
| | | |
| | | |
| | | |

| |

Player 1's chance

Enter the position between [1-9] where you want to mark: 1

| | | |
|---|--|--|
| X | | |
| | | |
| | | |

| | | |
|--|--|--|
| | | |
| | | |
| | | |

| |

Player 2's chance

Enter the position between [1-9] where you want to mark: 2

| | | |
|---|---|--|
| X | O | |
| | | |
| | | |

| | | |
|--|--|--|
| | | |
| | | |
| | | |

```

  | |
Player 1's chance
Enter the position between [1-9] where you want to mark: 5
X | O | 
--|---|
  | X | 
--|---|
  | | 
  | |
X | O | 
--|---|
  | X | 
--|---|
  | | 
  | |
Player 2's chance
Enter the position between [1-9] where you want to mark: 3
X | O | O
--|---|
  | X | 
--|---|
  | | 
  | |
X | O | O
--|---|
  | X | 
--|---|
  | | 
  | |
Player 1's chance
Enter the position between [1-9] where you want to mark: 9
X | O | O
--|---|
  | X | 
--|---|
  | | X
  | |
Player 1 Won

```

Result:

The Code has been implemented successfully.