Tic.Toc.Toe

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0.1 TIC TOC TOE GAME

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GAME RULE ---->

- Below places you have to fill one by one, one who achieves same symbol in row, column or diagonally of their type will be declared as a winner.
- Symbol used for first is X and for second is O .

[14]:
```
board = [["_","_","_"],
         ["_","_","_"],
         ["_","_","_"]]

def place( x ):
    if x == 1:
        return 0, 0
    if x == 2:
        return 0, 1
    if x == 3:
        return 0, 2
    if x == 4:
        return 1, 0
    if x == 5:
        return 1, 1
    if x == 6:
        return 1, 2
    if x == 7:
        return 2, 0
    if x == 8:
        return 2, 1
    if x == 9:
        return 2, 2
```

This function checks after every move whether X wins or O wins.

[15]:
```
def check_winner( board ):
    board_transpose = [[board[j][i] for j in range(len(board))] for i in␣
 ↪range(len(board[0]))]
```

```
    if((board[0].count("X") == 3) or (board[1].count("X") == 3) or (board[2].
↪count("X") == 3) or (board_transpose[0].count("X") == 3) or␣
↪(board_transpose[1].count("X") == 3) or (board_transpose[2].count("X") ==␣
↪3)):
        return 1

    if((board[0].count("O") == 3) or (board[1].count("O") == 3) or (board[2].
↪count("O") == 3) or (board_transpose[0].count("O") == 3) or␣
↪(board_transpose[1].count("O") == 3) or (board_transpose[2].count("O") ==␣
↪3)):
        return 2

    diag1 = [board[0][0], board[1][1], board[2][2]]
    diag2 = [board[2][0], board[1][1], board[0][2]]
    if((diag1.count("X") == 3) or (diag2.count("X") == 3)):
        return 1
    if((diag1.count("O") == 3) or (diag2.count("O") == 3)):
        return 2
    return 0
```

This function displays situation of board after every move.

[16]:
```
def display_board():
    print(board[0][0] + "  " + board[0][1] + "  " + board[0][2])
    print()
    print(board[1][0] + "  " + board[1][1] + "  " + board[1][2])
    print()
    print(board[2][0] + "  " + board[2][1] + "  " + board[2][2])

print("Initial board Situation --->")
display_board()
```

```
Initial board Situation --->
-  -  -

-  -  -

-  -  -
```

1 Driver code

[17]:
```
list_of_places = []
i = 0
while(i<9):
    Input_place = int(input("First person turn-->(1 - 9)  : "))
    if Input_place in list_of_places:
        print("Sorry wrong input, already filled. Try again !!!!!!")
        Input_place = int(input("Second person turn-->(1 - 9)  : "))
```

```
        list_of_places.append(Input_place)
    i, j = place( Input_place )
    board[i][j]= "X"
    display_board()
    list_of_places.append(Input_place)
    if(len(list_of_places) <= 9):
       if(check_winner(board) == 1):
            print("X's turn are winner, Hope You Enjoyed This Game !!!!!!!")
            break
       if(check_winner(board) == 2):
            print("O's turn are winner, Hope You Enjoyed This Game !!!!!!!")
            break
    if(len(list_of_places) == 9):
        print("Game drawn, Hope You Enjoyed !!!!!!")
    Input_place = int(input("Second person turn-->(1 - 9)  : "))
    if Input_place in list_of_places:
        print("Sorry wrong input, it's already filled. Try another !!!!!!")
        Input_place = int(input("Second person turn-->(1 - 9)  : "))
        list_of_places.append(Input_place)
    list_of_places.append(Input_place)
    i, j = place( Input_place )
    board[i][j] = "O"
    display_board()
    if(len(list_of_places) <= 9):
       if(check_winner(board) == 1):
            print("X's turn are winner, Hope You Enjoyed This Game !!!!!!!")
            break
       if(check_winner(board) == 2):
            print("O's turn are winner, Hope You Enjoyed This Game !!!!!!!")
            break

    i += 1
```

```
First person turn-->(1 - 9)  : 1
X  _  _

_  _  _

_  _  _
Second person turn-->(1 - 9)  : 5
X  _  _

_  O  _

_  _  _
First person turn-->(1 - 9)  : 2
X  X  _
```

```
_  O  _

_  _  _
Second person turn-->(1 - 9)  : 3
X  X  O

_  O  _

_  _  _
First person turn-->(1 - 9)  : 4
X  X  O

X  O  _

_  _  _
Second person turn-->(1 - 9)  : 7
X  X  O

X  O  _

O  _  _
O's turn are winner, Hope You Enjoyed This Game !!!!!!!
```

[ ]:
```
!wget -nc https://raw.githubusercontent.com/brpy/colab-pdf/master/colab_pdf.py
from colab_pdf import colab_pdf
colab_pdf('Tic.Toc.Toe.ipynb')
```

```
File colab_pdf.py already there; not retrieving.


WARNING: apt does not have a stable CLI interface. Use with caution in scripts.


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Extracting templates from packages: 100%
```