

## THIS IS A MINI - GAME: -It was completely developed using Python3

In [3]:

```
from IPython.display import clear_output
def display_board(board):
    clear_output()
    print(' | | ')
    print(board[7]+' | '+board[8]+' | '+board[9])
    print(' | | ')
    print('-----')
    print(' | | ')
    print(board[4]+' | '+board[5]+' | '+board[6])
    print(' | | ')
    print('-----')
    print(' | | ')
    print(board[1]+' | '+board[2]+' | '+board[3])
    print(' | | ')
```

In [4]:

```
summa_board=['#','1','2','3','4','5','6','7','8','9']
display_board(summa_board)
```

```
  |  |
7 | 8 | 9
  |  |
-----
  |  |
4 | 5 | 6
  |  |
-----
  |  |
1 | 2 | 3
  |  |
```

In [5]:

```
def player_input():
    marker=''
    while not(marker=='X' or marker=='O'):
        marker=input("Player 1...choose X or O : ").upper()
    if marker=='X':
        return('X','O')
    else:
        return('O','X')
```

In [6]:

```
player1_marker,player2_marker=player_input()
```

Player 1...choose X or O : x

In [7]:

```
def place_marker(board,marker,position):
    board[position]=marker
place_marker(summa_board,'$',8)
display_board(summa_board)
```

```
  |  |
7 | $ | 9
  |  |
-----
  |  |
4 | 5 | 6
  |  |
-----
```

```
| | |
1 | 2 | 3
| | |
```

In [8]:

```
def win_check(board,mark):
    return ((board[1]==mark and board[2]==mark and board[3]==mark)or
            (board[4]==mark and board[5]==mark and board[6]==mark)or
            (board[7]==mark and board[8]==mark and board[9]==mark)or
            (board[1]==mark and board[4]==mark and board[7]==mark)or
            (board[2]==mark and board[5]==mark and board[8]==mark)or
            (board[3]==mark and board[6]==mark and board[9]==mark)or
            (board[1]==mark and board[5]==mark and board[9]==mark)or
            (board[3]==mark and board[5]==mark and board[7]==mark) )
```

In [9]:

```
win_check(summa_board, 'x')
```

Out[9]:

False

In [10]:

```
import random
def choose_first():
    flip=random.randint(0,1)
    if flip==0:
        return 'Player 1'
    else:
        return 'Player 2'
```

In [11]:

```
def space_check(board,position):
    return board[position]==' '
```

In [12]:

```
def full_board_check(board):
    for i in range(1,10):
        if space_check(board,i):
            return False
    return True
```

In [13]:

```
def player_choice(board):
    position=0
    while position not in [1,2,3,4,5,6,7,8,9] or not space_check(board,position):
        position=int(input('Choose a position (1-9) : '))
    return position
```

In [14]:

```
def replay():
    choice = input("Wanna Play Again ? Enter y or n")
    return choice=='y'
```

In [15]:

```
print(" T I C - T A C - T O E ")
while True:

    the_board=[' ']*10
    player1_marker,player2_marker = player_input()

    turn=choose_first()
    print(turn+' will go first...')
```

```

play_game=input('Ready to start ? y or n ')
if play_game == 'y':
    game_on=True
else:
    game_on=False

while game_on:
    if turn == 'Player 1':

        display_board(the_board)
        position=player_choice(the_board)
        place_marker(the_board,player1_marker,position)
        if win_check(the_board,player1_marker):
            display_board(the_board)
            print('PLAYER 1 HAS WON !!!!')
            game_on=False
        else:
            if full_board_check(the_board):
                display_board(the_board)
                print("TIE GAME !")
                game_on=False
            else:
                turn ='Player 2'

    else:

        display_board(the_board)
        position=player_choice(the_board)
        place_marker(the_board,player2_marker,position)
        if win_check(the_board,player2_marker):
            display_board(the_board)
            print('PLAYER 2 HAS WON !!!!')
            game_on = False
        else:
            if full_board_check(the_board):
                display_board(the_board)
                print("TIE GAME !")
                game_on = False
            else:
                turn='Player 1'

if not replay():
    break

```

```

|   |
|   | X
|   |

```

```

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

```

```

-----
X | O |
|   |

```

PLAYER 1 HAS WON !!!!

Wanna Play Again ? Enter y or nn