

# AI Lab - Tic Tac Toe

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In [1]:

```
square=[0,1,2,3,4,5,6,7,8,9]
```

In [2]:

```
def board():  
    print('Player 1 (X) - Player 2 (O)' )  
    print()  
  
    print('      |      |      ' )  
    print(' ' ,square[1] , ' | ' ,square[2] , ' | ' ,square[3] )  
  
    print('_____|_____|_____' )  
    print('      |      |      ' )  
  
    print(' ' ,square[4] , ' | ' ,square[5] , ' | ' ,square[6] )  
  
    print('_____|_____|_____' )  
    print('      |      |      ' )  
  
    print(' ' ,square[7] , ' | ' ,square[8] , ' | ' ,square[9] )  
  
    print('      |      |      ' )
```

In [3]:

```
def game_status():  
    if square[1] == square[2] and square[2] == square[3]:  
        return 1  
    elif square[4] == square[5] and square[5] == square[6]:  
        return 1  
    elif square[7] == square[8] and square[8] == square[9]:  
        return 1  
    elif square[1] == square[4] and square[4] == square[7]:  
        return 1  
    elif square[2] == square[5] and square[5] == square[8]:  
        return 1  
    elif square[3] == square[6] and square[6] == square[9]:  
        return 1  
    elif square[1] == square[5] and square[5] == square[9]:  
        return 1  
    elif square[3] == square[5] and square[5] == square[7]:  
        return 1  
    elif square[1] != 1 and square[2] != 2 and square[3] != 3 and square[4] != 4 and square[5] != 5 and square[6] != 6 and square[7] != 7 and square[8] != 8 and square[9] != 9:  
        return 0  
    else:  
        return -1
```

In [5]:

```
def main():
    player = 1
    status = -1

    while status == -1:
        board()

        if player%2 == 1:
            player = 1
        else:
            player = 2

        print('\nPlayer', player)
        choice = int(input('Enter a number:'))

        if player == 1:
            mark = 'X'
        else:
            mark = 'O'

        if choice == 1 and square[1] == 1:
            square[1] = mark
        elif choice == 2 and square[2] == 2:
            square[2] = mark
        elif choice == 3 and square[3] == 3:
            square[3] = mark
        elif choice == 4 and square[4] == 4:
            square[4] = mark
        elif choice == 5 and square[5] == 5:
            square[5] = mark
        elif choice == 6 and square[6] == 6:
            square[6] = mark
        elif choice == 7 and square[7] == 7:
            square[7] = mark
        elif choice == 8 and square[8] == 8:
            square[8] = mark
        elif choice == 9 and square[9] == 9:
            square[9] = mark
        else:
            print('Invalid move ')
            player -= 1

        status = game_status()
        player += 1

    print('RESULT')
    if status == 1:
        print('Player', player-1, 'win')
    else:
        print('Game draw')
main()
```

Tic Tac Toe

Player 1 (X) - Player 2 (O)

1	2	3
4	5	6
7	8	9

Player 1

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X	2	3
4	5	6
7	8	9

Player 2

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X	2	O
4	5	6
7	8	9

Player 1

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X	2	0
4	X	6
7	8	9

Player 2

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X	2	0
4	X	0
7	8	9

Player 1

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X	2	0
4	X	0
7	8	X

RESULT  
Player 1 win