

Session 7

- Tic Tac Toe game

1) Displaying the Tic-Tac-Toe Board

User will enter Numbers between 1-9

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

```
In [2]: B = [" ", " ", " ", " ", " ", " ", " ", " ", " "]

def print_board():
    print(" "+B[0]+" "+"|"+" "+B[1]+" "+"|"+" "+B[2]+" ")
    print("=====")
    print(" "+B[3]+" "+"|"+" "+B[4]+" "+"|"+" "+B[5]+" ")
    print("=====")
    print(" "+B[6]+" "+"|"+" "+B[7]+" "+"|"+" "+B[8]+" ")
```

```
In [3]: print_board()
```

```
  |  |
=====
  |  |
=====
  |  |
```

We can try editing the values of elements in list `B` This will cause the elements in the Board to also change

```
In [ ]: B = [" ", " ", " ", "X", " ", " ", " ", " ", " "]

def print_board():
    print(" "+B[0]+" "+"|"+" "+B[1]+" "+"|"+" "+B[2]+" ")
    print("=====")
    print(" "+B[3]+" "+"|"+" "+B[4]+" "+"|"+" "+B[5]+" ")
    print("=====")
    print(" "+B[6]+" "+"|"+" "+B[7]+" "+"|"+" "+B[8]+" ")
```

```
In [ ]: print_board()
```

2) The Game Loop

The game Loop is responsible for controlling the entire game

```
In [ ]: for x in range(0,9):
```

```

in1 = int(input("enetr a position :"))

if x%2 == 0:
    B[in1-1] = 'X'
else :
    B[in1-1] = 'O'

print_board()

```

Running the above cell will cause the game to start asking users to enetr position and filling the positions with either X or O depending on whoes turn it is

HOMEWORK

1. In the Tic-Tac-Toe Game, try to add a function which will help us tell if someone has won the game and stop the for loop

HOMEWORK SOLUTION

```

In [ ]: def check_win():
    if B[0] == 'X' and B[1] == 'X' and B[2] == 'X':
        return "x won"
    if B[0] == 'X' and B[3] == 'X' and B[6] == 'X':
        return "x won"

    for x in range(0,9):
        in1 = int(input("enetr a position :"))

        if x%2 == 0:
            B[in1-1] = 'X'
        else :
            B[in1-1] = 'O'

        print_board()
        check = check_win()
        if check == 'x won':
            print("x has won")
            break

    # Add other condition in the function

```

In []: