**Assignment 3**

**Tamer E.**

**1.**

Script #1

A=[[10,5],[30],[40]]

B=A

B[0][1]=3

print(A)

**Output:**

[[10, 3], [30], [40]]

There is no list copied, both the variables A and B are pointing to the same list in memory. B is just a reference point to A. Any changes made in list A will reflect in list B and vice versa meaning only one list exists.

Script #2

A=[[10,5],[30],[40]]

B=list(A)

B[0][1]=3

print(A)

**Output:**

[[10, 3], [30], [40]]

The structure of A is getting copied to B which is known as a shallow copy. Meaning that list B stores the reference of all the elements in A. If changes are made in A or B, then changes will reflect on B or A respectively.

Script #3

import copy

A=[[10,5],[30],[40]]

B=copy.deepcopy(A)

B[0][1]=3

print(A)

**Output:**

[[10, 5], [30], [40]]

This is a2 case of deepcopy, none of the changes made in A will reflect on B and vice versa. Changes made will only be seen in that variable itself. The 2 lists are independent of each other.

**2. In .py file.**

**3.**

1 - Pop n-1 elements from C  
2 - Push n-1 elements to A  
3 - Pop nth element from C  
4 - Push nth element to B  
5 - Pop n-1 elements from A  
5 - Push n-1 elements to B

**4. In .py file.**

**5. In .py file.**