QUESTION 3

a) Write a python program to implement a stack and queue using lists

```python
#Python Program-7- implement stack and queues using lists
stack=['Ronaldo','Messi','Neymar','Mbappe']
stack.append('Benzema')
stack.append('Bale')
print('***The Top Football Players In The World are-****\n',stack)
print('---------------------------------------------------')
print(stack.pop())
print('---------------------------------------------------')
print(stack)
print('---------------------------------------------------')
print(stack.pop())
print('---------------------------------------------------')
print(stack)
# Implementing Queues using Lists
print()
print()
queue=['Pele','Maradona','Cafu','Zidane']
queue.append('Ronaldinho')
queue.append('Beckham')
print("*** The Top Football Legends are-***\n",queue)
print('-----------------------------------------------')
print(queue.pop(0))
print('-----------------------------------------------')
print(queue)
print("-----------------------------------------------")
print(queue.pop(0))
print('-----------------------------------------------')
print(queue)
```

OUTPUT-

The Top Football Players In The World are-*

['Ronaldo', 'Messi', 'Neymar', 'Mbappe', 'Benzema', 'Bale']

Bale

['Ronaldo', 'Messi', 'Neymar', 'Mbappe', 'Benzema']

Benzema

['Ronaldo', 'Messi', 'Neymar', 'Mbappe']

*** The Top Football Legends are-***

['Pele', 'Maradona', 'Cafu', 'Zidane', 'Ronaldinho', 'Beckham']

Pele

['Maradona', 'Cafu', 'Zidane', 'Ronaldinho', 'Beckham']

Maradona

['Cafu', 'Zidane', 'Ronaldinho', 'Beckham']

b) Write a python program to create a list of tuples having first element as the strings and the second element as the length of the string. Output the list of tuples sorted based on the length of the string.

#Python Program-8-List of Tuples

list=[('Neymar',6),('Messi',5),('Ronaldo',7),('Mbappe',6),('Dani',4),('Lewandowski',11)]

```python
list.sort(key=lambda a:a[1])
```

```python
print(list)
```

OUTPUT-

[('Dani', 4), ('Messi', 5), ('Neymar', 6), ('Mbappe', 6), ('Ronaldo', 7), ('Lewandowski', 11)]

b) Write a python program to create a list and perform the following operations

Inserting an element

Removing an element

Appending an element

Displaying the length of the list

Popping an element

Clearing the list

```python
#Python Program-9 - Creating and Doing operations on lists
list1=['Neymar','Messi','Ronaldo','Suarez','Kane','Hazard']
#To insert an element list1.insert(4,'Maguire')
print('Inserted List:\n',list1)
print()
#To remove an element
del list1[2]
print('Modified List:\n',list1)
print()
#To append an element
list1.append('Kante')
print('Appended List:\n',list1)
print()
#Displaying length of the list
a=len(list1)
print('Length of List: ',a)
```

```
print()
```

```
#Popping an Element
```

```
b=list1.pop()
```

```
print("List after Pop:\n",b)
```

```
print()
```

```
#Clearing the list
```

```
list1.clear()
```

```
print('Clearing the list:\n',list1)
```

OUTPUT-Inserted List:

['Neymar', 'Messi', 'Ronaldo', 'Suarez', 'Maguire', 'Kane', 'Hazard']

Modified List:

['Neymar', 'Messi', 'Suarez', 'Maguire', 'Kane', 'Hazard']

Appended List:

['Neymar', 'Messi', 'Suarez', 'Maguire', 'Kane', 'Hazard', 'Kante']

Length of List: 7

List after Pop:

Kante

Clearing the list:

[]