Topic List

Q1

In [2]:
```
L1=[0,1,3,6,7]
print(L1)
```

```
[0, 1, 3, 6, 7]
```

Q2

In [4]:
```
L1.extend([5,9,19])
print(L1)
```

```
[0, 1, 3, 6, 7, 5, 9, 19]
```

Q3

In [8]:
```
third_element=L1[2]
print(third_element)
```

```
3
```

Q4

In [12]:
```
L2=['Lis','Mary','Shony']
L3=L1+L2
print(L3)
```

```
[0, 1, 3, 6, 7, 5, 9, 19, 'Lis', 'Mary', 'Shony']
```

Q5

In [14]:
```
for i in L3:
    print(i)
```

```
0
1
3
6
7
5
9
19
Lis
Mary
Shony
```

Topic Dictionary

Q1

In [17]:
```
D1={'Name':'John','Age':25,'Address':'New York'}
print(D1)
```

```
{'Name': 'John', 'Age': 25, 'Address': 'New York'}
```

Q2

In [21]:
```
D1['Phone']='1234567890'
print(D1)
```

```
{'Name': 'John', 'Age': 25, 'Address': 'New York', 'Phone': '1234567890'}
```

Q3

In [23]:
```
D1.pop('Address')
print(D1)
```

```
{'Name': 'John', 'Age': 25, 'Phone': '1234567890'}
```

Q4

In [25]:
```
print(D1['Age'])
```

```
25
```

Q5

In [27]:
```
print('Phone' in D1)
```

```
True
```

Topic Set

Q1

In [30]:
```
S1={1,2,3,4,5}
print(S1)
```

```
{1, 2, 3, 4, 5}
```

Q2

In [32]:
```
S1.add(6)
print(S1)
```

```
{1, 2, 3, 4, 5, 6}
```

Q3

In [34]:
```
S1.remove(3)
print(S1)
```

```
{1, 2, 4, 5, 6}
```

Q4

In [ ]:
```
print(len(S1))
```

Q5

In [38]:
```
S2={6,7,8}
S3=S1.union(S2)
print(S3)
```

```
{1, 2, 4, 5, 6, 7, 8}
```

Topic Tuple

Q1

In [41]:
```
T1=(1,2,3,4)
print(T1)
```

```
(1, 2, 3, 4)
```

Q2

In [43]:
```
print(len(T1))
```

```
4
```

Q3

In [45]:
```
T2=(5,6)
T3=T1+T2
```

```
print(T3)
```

```
(1, 2, 3, 4, 5, 6)
```

Q4

In [47]:
```
print(T3[:2])
```

```
(1, 2)
```

Q5

In [49]:
```
print(4 in T1)
```

```
True
```

Topic: String, List, Set, Dictionary Comprehension

Exercise 1

In [78]:
```
F_Name = input("Please enter your first name: ")
L_Name = input("Please enter your last name: ")

Full_Name = f"{F_Name.upper()} {L_Name.upper()}"
print(f"Your full name is {Full_Name}")

Initials = f"{F_Name[0].upper()} {L_Name[0].upper()}"
print(f"Your initials are {Initials}")

print(f"First name length is {len(F_Name)} letters")
print(f"Last name length is {len(L_Name)} letters")
print(f"Full name length is {len(Full_Name)} letters")

print(f"First name starts with {F_Name[0].upper()}")
print(f"First name ends with {F_Name[-1].upper()}")
print(f"Last name starts with {L_Name[0].upper()}")
print(f"Last name ends with {L_Name[-1].upper()}")

print(f"First name indexes are 0- {len(F_Name)-1}")
print(f"Last name indexes are 0- {len(L_Name)-1}")

print(f"First name trims 1 {F_Name[:3]}")
print(f"First name trims 2 {F_Name[1:]}")
print(f"Last name trims 1 {L_Name[:3]}")
print(f"Last name trims 2 {L_Name[1:]}")
```

```
Your full name is LIS MARY ANTONY
Your initials are L A
First name length is 8 letters
Last name length is 6 letters
Full name length is 15 letters
First name starts with L
First name ends with Y
Last name starts with A
Last name ends with Y
First name indexes are 0- 7
Last name indexes are 0- 5
First name trims 1 Lis
First name trims 2 is Mary
Last name trims 1 Ant
Last name trims 2 ntony
```

Exercise 2

In [80]:
```
Name = input("Please enter your name: ")
E_Name=f"{Name[0]}**{Name[-1]}"
print(f"Encrypted Name: {E_Name}")
```

```
Encrypted Name: L**y
```

Exercise 3

In [88]:
```
Str=['amma','Lis','Shony','1307061']
count=sum(1 for word in Str if
                                len(word)>1 and word[0]==word[-1])
print(count)
```

```
2
```

Exercise 4

In [92]:
```
D7=[num for num in range(1,1001) if num % 7 ==0]
print(D7)
```

```
[7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105, 112, 119, 126, 133,
140, 147, 154, 161, 168, 175, 182, 189, 196, 203, 210, 217, 224, 231, 238, 245, 2
52, 259, 266, 273, 280, 287, 294, 301, 308, 315, 322, 329, 336, 343, 350, 357, 36
4, 371, 378, 385, 392, 399, 406, 413, 420, 427, 434, 441, 448, 455, 462, 469, 47
6, 483, 490, 497, 504, 511, 518, 525, 532, 539, 546, 553, 560, 567, 574, 581, 58
8, 595, 602, 609, 616, 623, 630, 637, 644, 651, 658, 665, 672, 679, 686, 693, 70
0, 707, 714, 721, 728, 735, 742, 749, 756, 763, 770, 777, 784, 791, 798, 805, 81
2, 819, 826, 833, 840, 847, 854, 861, 868, 875, 882, 889, 896, 903, 910, 917, 92
4, 931, 938, 945, 952, 959, 966, 973, 980, 987, 994]
```

Exercise 5

In [96]:
```
L4=[3,6,9,12,15,18,21,24,27,30]
D2={num: num/3 for num in L4}
print(D2)
```

```
{3: 1.0, 6: 2.0, 9: 3.0, 12: 4.0, 15: 5.0, 18: 6.0, 21: 7.0, 24: 8.0, 27: 9.0, 3
0: 10.0}
```

In [ ]: