In [1]:
```
#1. Construct 2 lists containing all the available data types (integer, float, string, complex ar
#a. Create another list by concatenating the above 2 lists.
#b. Find the frequency of each element in the concatenated list.
#c. Print the list in reverse order.
```

In [6]:
```
list1 = [3,5.6,"abishek",2+3j,True]
list2 = [4,2.4,3,"360digitMG",7-5j,False]
```

In [7]:
```
list3= list1 + list2
list3
```

Out[7]:
```
[3, 5.6, 'abishek', (2+3j), True, 4, 2.4, 3, '360digitMG', (7-5j), False]
```

In [20]:
```
occurances= {}
for i in list3:
    occurances[i]= occurances.get(i,0)+1
occurances
```

Out[20]:
```
{3: 2,
 5.6: 1,
 'abishek': 1,
 (2+3j): 1,
 True: 1,
 4: 1,
 2.4: 1,
 '360digitMG': 1,
 (7-5j): 1,
 False: 1}
```

In [21]:
```
for i,n in occurances.items():
    print("The frequency of {} is {} times".format(i,n))
```

```
The frequency of 3 is 2 times
The frequency of 5.6 is 1 times
The frequency of abishek is 1 times
The frequency of (2+3j) is 1 times
The frequency of True is 1 times
The frequency of 4 is 1 times
The frequency of 2.4 is 1 times
The frequency of 360digitMG is 1 times
The frequency of (7-5j) is 1 times
The frequency of False is 1 times
```

In [28]:
```
list3.reverse()
```

In [29]:
```
print(list3)
```

```
[False, (7-5j), '360digitMG', 3, 2.4, 4, True, (2+3j), 'abishek', 5.6, 3]
```

In [30]:
```
#2. Create 2 Sets containing integers (numbers from 1 to 10 in one set and 5 to 15 in another set
#a. Find the common elements in the above 2 Sets.
#b. Find the elements that are not common.
#c. Remove element 7 from both Sets.
```

In [33]:
```
set1 = {1,4,2,5,6,7}
set2={2,4,5,6,3,7}
common= set1.intersection(set2)
```

In [34]:
```
common
```

Out[34]:
```
{2, 4, 5, 6, 7}
```

In [50]:
```
uncommon= set1.symmetric_difference(set2)
```

In [51]:
```
uncommon
```

Out[51]:
```
{1, 3}
```

In [52]:
```
set1.discard(7)
```

In [53]:
```
set2.discard(7)
```

In [54]:
```
#3. Create a data dictionary of 5 states having state name as key and number of covid-19 cases as
#a. Print only state names from the dictionary.
#b. Update another country and its covid-19 cases in the dictionary.
```

In [55]:
```
covid_data={"tamilnadu":3526,"andrapradesh":3636,"kerala":1323,"karnataka":5374,"Telungana":5352
```

In [56]:
```
covid_data.keys()
```

Out[56]:
```
dict_keys(['tamilnadu', 'andrapradesh', 'kerala', 'karnataka', 'Telungana'])
```

In [61]:
```
covid_data["maharashtra"]=4536
```

In [62]:
```
covid_data
```

Out[62]:
```
{'tamilnadu': 3526,
 'andrapradesh': 3636,
 'kerala': 1323,
 'karnataka': 5374,
 'Telungana': 5352,
 'maharashtra': 4536}
```

In [63]:
```
#1. A. Write an equation that relates   399, 543, and 12345.
#B.  “When I divide 5 by 3, I got 1. But when I divide -5 by 3, I got -2”—How would you justify
```

In [64]:
```
result= 399*543-12345
```

In [65]:
```
result
```

Out[65]:
```
204312
```

In [66]:
```
#B.
# when it comes to floor division in  python 5//3 ...as the value is 1.6... but it rounds it to
#as the lowest value moves towerds negative infinity...when  we do -5//3 it rounds it to -2 as -
```

In [67]:
```
#       2.  a=5, b=3, c=10. What will be the output of the following:
          #    A. a/=b
           #   B. c*=5
```

In [70]:
```
#A.
# a/=b == (a=a/b) so the output will be a=5.3 that equals 1.66..
#B.
#c*=5 == (c=c*5) so the output will be c=10*5 that equals 50
```

In [71]:
```
#       3. A. How to check the presence of an alphabet ‘s’ in the word “Data Science”.
 #           B. How can you obtain 64 by using numbers 4 and 3.
```

In [76]:
```
#A.
presence = "s" in "Data Science"
```

In [73]:
```
presence  # since we checked for a lower case s it results in false
```

Out[73]:
```
False
```

In [74]:
```
presence = "S" in "Data Science"
```

In [75]:
```
presence
```

Out[75]:
```
True
```

In [77]:
```
#B.
result = 4**3
```

In [78]:
```
result
```

Out[78]:
```
64
```

In [ ]: