1. Differentiate between list tuples and dictionary

A list can store a sequence of objects in a certain order such that you can index into the list, or iterate over the list. List is a mutable type meaning that lists can be modified after they have been created.

A tuple is similar to a list except it is immutable. There is also a semantic difference between a list and a tuple.

Tuples have structure, lists have order.

A dictionary is a key-value store. It is not ordered and it requires that the keys are hashable. It is fast for lookups by key.

2. Program to iterate over a dictionary using for loop

```
d = {'Red': 1, 'Green': 2, 'Blue': 3}
for color_key, value in d.items():
 print(color_key, 'corresponds to ', d[color_key])
```

Output:-

Red corresponds to 1

Green corresponds to 2

Blue corresponds to 3

3. Program to sum all the items in a dictionary

```
my_dict = {'data1':100,'data2':-54,'data3':247}
print(sum(my_dict.values()))
```

Output:-

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4. Write a Python script to concatenate following dictionaries to create a new one

Sample Dictionary:

a. dic1= {1:10, 2:20}

b. dic2= {3:30, 4:40}

c. dic3= {5:50, 6:60}

```
dic1={1:10, 2:20}
dic2={3:30, 4:40}
dic3={5:50,6:60}
dic4 = {}
for d in (dic1, dic2, dic3): dic4.update(d)
print(dic4)
```

Output:-

{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

5. Python script to check whether a given key is already exist or not in the dictionary

```
d = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
def is_key_present(x):
 if x in d:
 print('Key is present in the dictionary')
 else:
 print('Key is not present in the dictionary')
is_key_present(5)
is_key_present(9)
```

Output:-

Key is present in the dictionary

Key is not present in the dictionary