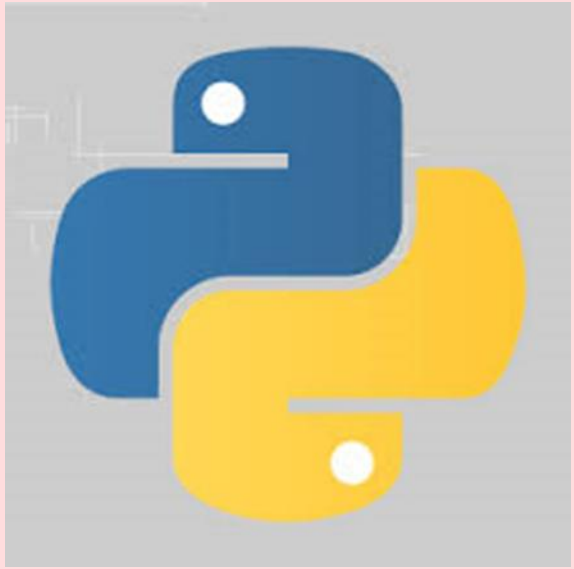

Task 1

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Lists

List is an ordered sequence of items represented by [ ]. Values present in the list are called elements/items. Items are separated in list by comma. Items in the list can be of different data types. Lists are mutable(can be modified).

```
# creating/defining a list
example = [1, 2, "a", True]
print("Initial list: ", example)

# adding an element to the list
example.append("dog")
example.insert(2, "cat") # adding element at a particular index
print("After adding elements the list: ", example)

# removing an element from the list
example.remove("a") # removes specific element
example.pop() # removes last element
example.pop(2) # removes based on index
print("After removing elements the list: ", example)

# modifying a element in the list
example[0] = 100
print("Updated list: ", example)
```

```
Initial list:  [1, 2, 'a', True]
After adding an element list:  [1, 2, 'cat', 'a', True, 'dog']
After removing elements the list:  [1, 2, True]
Updated list:  [100, 2, True]
```

Dictionaries

Dictionaries are unordered collections of key-value pairs represented in { } No indexing for accessing elements, elements are accessed with the help of keys. Keys are immutable and unique whereas values are mutable.

```
# creating/defining a dictionary for storing students' attendance
# student's attendance is mapped to the corresponding student name
attendance = {"Ravi": 90, "Sita": 95, "Rama": 85}
print("Initial dictionary: ", attendance)

# adding an element to the dictionary
attendance["Geetha"] = 80
print("Dictionary after adding an element to dictionary: ", attendance)

# removing an element from the dictionary
del attendance["Ravi"]
print("Dictionary after deleting an element: ", attendance)

# modifying an element in the dictionary
attendance["Geetha"] = 90
print("Updated dictioanry: ", attendance)
```

```
Initial dictionary:  {'Ravi': 90, 'Sita': 95, 'Rama': 85}
Dictionary after adding an element to dictionary:  {'Ravi': 90, 'Sita': 95, 'Rama': 85, 'Geetha': 80}
Dictionary after deleting an element:  {'Sita': 95, 'Rama': 85, 'Geetha': 80}
Updated dictioanry:  {'Sita': 95, 'Rama': 85, 'Geetha': 90}
```

Sets

Sets are used to store multiple items in single variable. Sets are unindexed, unordered, mutable and donot allow duplicates.

```
[ ]  empty_set = set() #defining empty set
     print("Empty set: ", empty_set)

     animals = {"zebra", "tiger", "dog", "lion", "cat"}  # defining/creating a set
     print("Initial animal set:", animals)

     # adding an element to the set
     animals.add("donkey")
     print("After adding an element animal set: ", animals)

     # removing an element from the set
     animals.remove("cat")
     print("After removing an element animal set: ", animals)

     # modifying an element from the set
     animals.discard("lion")
     animals.add("hippo")
     print("After modfying an element animal set: ", animals)
```

```
Empty set:  set()
Initial animal set: {'cat', 'dog', 'tiger', 'zebra', 'lion'}
After adding an element animal set:  {'cat', 'donkey', 'dog', 'tiger', 'zebra', 'lion'}
After removing an element animal set:  {'donkey', 'dog', 'tiger', 'zebra', 'lion'}
After modfying an element animal set:  {'donkey', 'hippo', 'dog', 'tiger', 'zebra'}
```