**Built in Data Types:**

**Data Collection:**

**Lists :**

List is used for data collection -> lists are mutable.

Note: when two lists are equated, they are both stored in the same memory location in computer. Any change to either list is reflected in both.

*Eg.*

*A=[1,2,3,4,5]*

*B=A*

*B[0]=100*

*If we print A -> it will give [100,2,3,4,5]*

*A=[B]\*3 creates a list within a list*

Question: How can we copy a list which is stored in a different memory location -> such that list is independent of each other. (Concept to understand -> deep and shallow copy)

*List methods: (see presentation for full list)*

* Append
* Insert -> alist.insert (i,item)
* Pop alist.pop(i) -> removes i th element from list

**Strings**:

Strings are sequential immutable collection of zeros or more letters

*String methods:*

* Center -> astring.center(w) -> w is the position on the screen
* Count
* Find
* Strip

Note: cannot use split in a string -> since they are immutable

**Tuples**:

Most memory efficient way to store data. Refer presentation from foundation course for more details.

**Set:** unorderedcollection of data, which is immutable : defined like a dictionary-> however there is no key: value structure.

*Sets methods:*

* Union -> myset.union(newset) 🡪 merges all values from both sets ( removes duplicates)
* Myset.intersection(new set) --> finds common elements from 2 sets.

Note: we can compare or merge more than 2 sets -> myset.union (new1,new2,new3)

**Dictionary :** unordered collection of associated pairs of items where each pair consists of key - > dictionaries are mutable.

*Dictionary methods:*

* *Keys*
* *Values*
* *items*

*Note:*

*Application of dictionary: (JASON)*

*Concept of JASON and API explained below (overview)*

*API -> facebook -> username and password send request to Facebook server -> FB responds by sending us the home page…. Similarly API send request and Jason is the response we get . Eg. NASDAQ : google:stock Value*

**Input / output**

X=input(“enter the value”)

Y=“enter the value”

X=input(y)

Whatever the user input is stored in the variable ‘x’ in above example.

Elif :

Exception Handling: