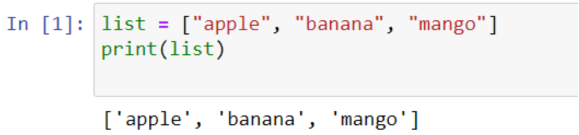
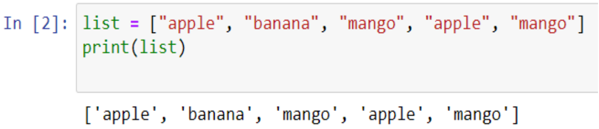
LIST CHEATSHEET

Lists are used to store multiple items in a single variable. List values are placed in between square brackets [ ]



```
In [1]: list = ["apple", "banana", "mango"]
        print(list)

        ['apple', 'banana', 'mango']
```



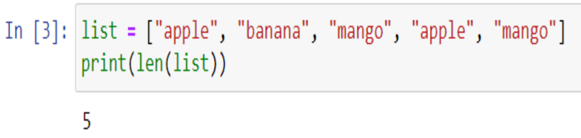
```
In [2]: list = ["apple", "banana", "mango", "apple", "mango"]
        print(list)

        ['apple', 'banana', 'mango', 'apple', 'mango']
```

List items are ordered (items have a defined order, and that order will not change), changeable (we can change, add, and remove items in a list after it has been created), and allow duplicate (have items with the same value) values.

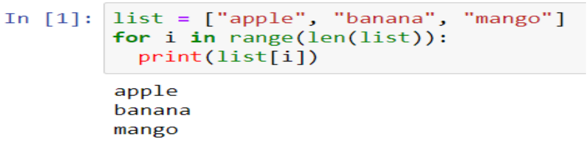
List items are indexed, the first item has index [0], the second item has index [1] , the last item has index [-1] , the second last item etc.

A slice, sub-list of Python list elements can be selected from list using colon-separated starting and ending point.

Functions : len(), range()

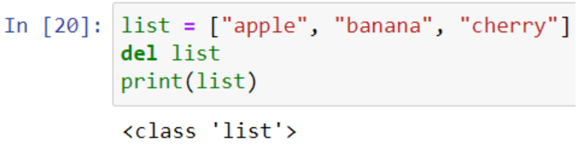


```
In [3]: list = ["apple", "banana", "mango", "apple", "mango"]
        print(len(list))

        5
```

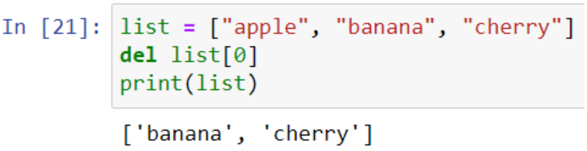


```
In [1]: list = ["apple", "banana", "mango"]
        for i in range(len(list)):
          print(list[i])

        apple
        banana
        mango
```

Keyword : del - removes the specified index, delete the list completely

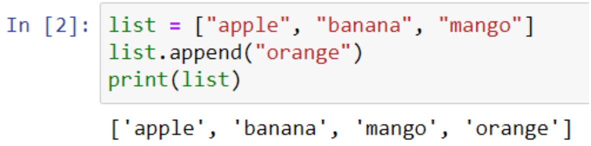


```
In [20]: list = ["apple", "banana", "cherry"]
         del list
         print(list)

         <class 'list'>
```

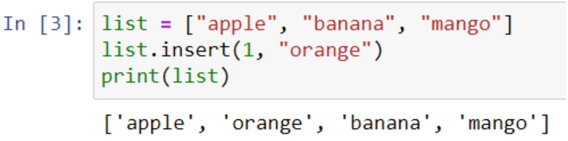


```
In [21]: list = ["apple", "banana", "cherry"]
         del list[0]
         print(list)

         ['banana', 'cherry']
```

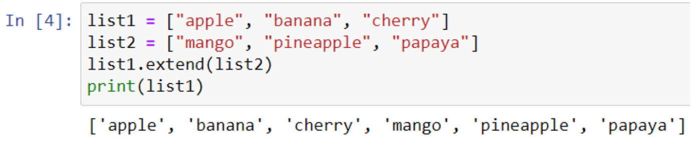
Method : append(), insert(), extend(), remove(), pop(), clear(), sort(), reverse(), copy(), count(), index()



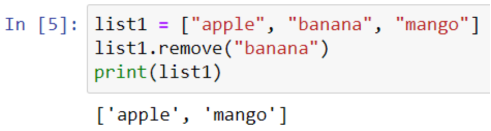
```
In [2]: list = ["apple", "banana", "mango"]
        list.append("orange")
        print(list)

        ['apple', 'banana', 'mango', 'orange']
```



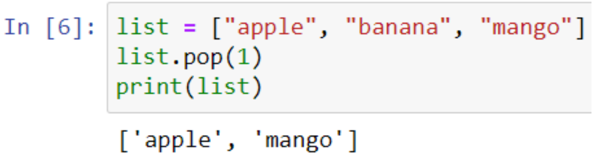
```
In [3]: list = ["apple", "banana", "mango"]
        list.insert(1, "orange")
        print(list)

        ['apple', 'orange', 'banana', 'mango']
```



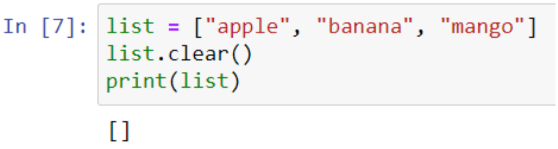
```
In [4]: list1 = ["apple", "banana", "cherry"]
        list2 = ["mango", "pineapple", "papaya"]
        list1.extend(list2)
        print(list1)

        ['apple', 'banana', 'cherry', 'mango', 'pineapple', 'papaya']
```



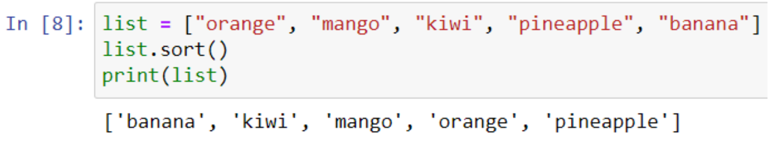
```
In [5]: list1 = ["apple", "banana", "mango"]
        list1.remove("banana")
        print(list1)

        ['apple', 'mango']
```



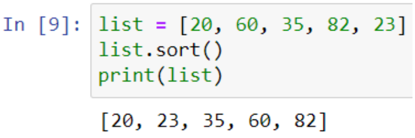
```
In [6]: list = ["apple", "banana", "mango"]
        list.pop(1)
        print(list)

        ['apple', 'mango']
```



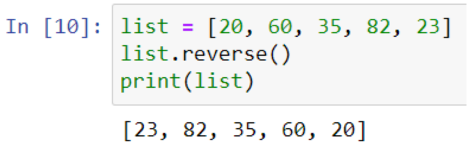
```
In [7]: list = ["apple", "banana", "mango"]
        list.clear()
        print(list)

        []
```



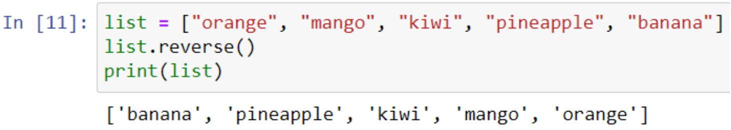
```
In [8]: list = ["orange", "mango", "kiwi", "pineapple", "banana"]
        list.sort()
        print(list)

        ['banana', 'kiwi', 'mango', 'orange', 'pineapple']
```



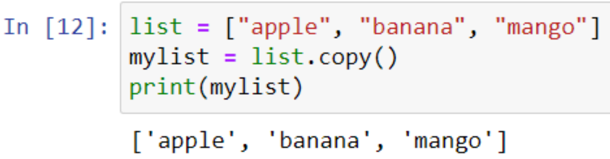
```
In [9]: list = [20, 60, 35, 82, 23]
        list.sort()
        print(list)

        [20, 23, 35, 60, 82]
```



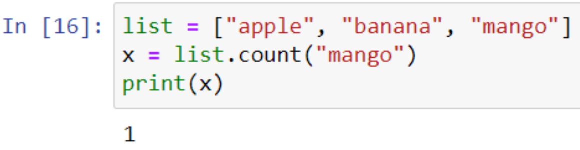
```
In [10]: list = [20, 60, 35, 82, 23]
         list.reverse()
         print(list)

         [23, 82, 35, 60, 20]
```



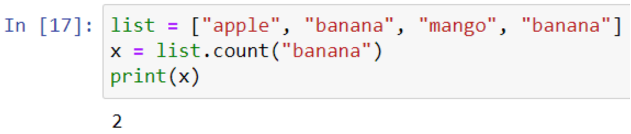
```
In [11]: list = ["orange", "mango", "kiwi", "pineapple", "banana"]
         list.reverse()
         print(list)

         ['banana', 'pineapple', 'kiwi', 'mango', 'orange']
```



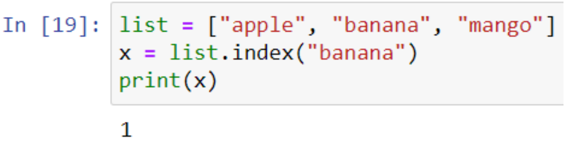
```
In [12]: list = ["apple", "banana", "mango"]
         mylist = list.copy()
         print(mylist)

         ['apple', 'banana', 'mango']
```



```
In [16]: list = ["apple", "banana", "mango"]
         x = list.count("mango")
         print(x)

         1
```

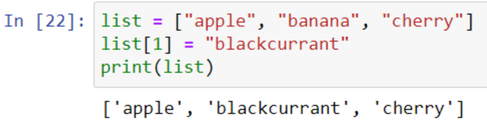


```
In [17]: list = ["apple", "banana", "mango", "banana"]
         x = list.count("banana")
         print(x)

         2
```

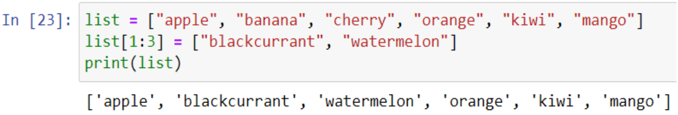


```
In [19]: list = ["apple", "banana", "mango"]
         x = list.index("banana")
         print(x)

         1
```

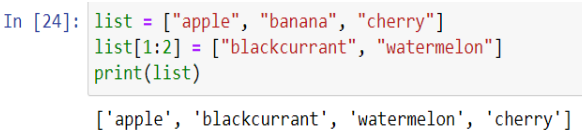
Change Item Value : change the value of a specific item , change the value of items within a specific range, insert less/more items than you replace



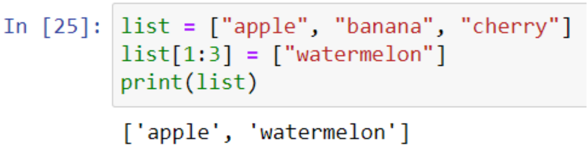
```
In [22]: list = ["apple", "banana", "cherry"]
         list[1] = "blackcurrant"
         print(list)

         ['apple', 'blackcurrant', 'cherry']
```



```
In [23]: list = ["apple", "banana", "cherry", "orange", "kiwi", "mango"]
         list[1:3] = ["blackcurrant", "watermelon"]
         print(list)

         ['apple', 'blackcurrant', 'watermelon', 'orange', 'kiwi', 'mango']
```

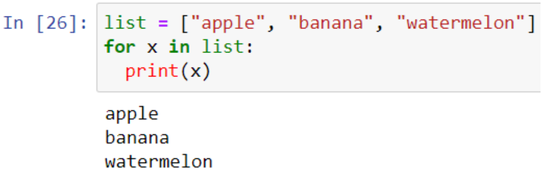


```
In [24]: list = ["apple", "banana", "cherry"]
         list[1:2] = ["blackcurrant", "watermelon"]
         print(list)

         ['apple', 'blackcurrant', 'watermelon', 'cherry']
```

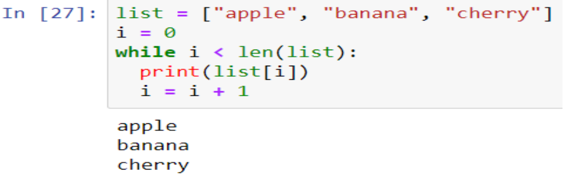


```
In [25]: list = ["apple", "banana", "cherry"]
         list[1:3] = ["watermelon"]
         print(list)

         ['apple', 'watermelon']
```

Loop Through a List : for - loop is used for iterating over a sequence , while - we can execute a set of statements as long as a condition is true



```
In [26]: list = ["apple", "banana", "watermelon"]
         for x in list:
           print(x)

         apple
         banana
         watermelon
```



```
In [27]: list = ["apple", "banana", "cherry"]
         i = 0
         while i < len(list):
           print(list[i])
           i = i + 1

         apple
         banana
         cherry
```

List Comprehension : offers a shorter syntax when you want to create a new list based on the values of an existing list.

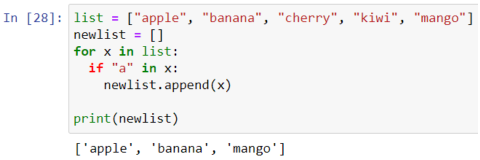
By Syntax : newlist = [expression for item in iterable if condition == True]

The return value is a new list, leaving the old list unchanged.

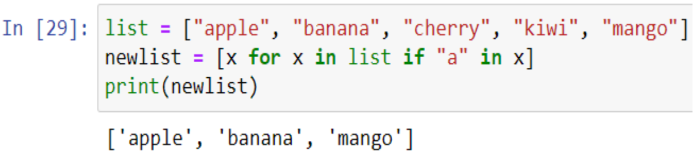
condition is like a filter that only accepts the items that valuate to True, condition is optional and can be omitted.

iterable can be any iterable object, like a list, tuple, set etc, expression is the current item in the iteration.

FROM ---→ TO



```
In [28]: list = ["apple", "banana", "cherry", "kiwi", "mango"]
         newlist = []
         for x in list:
           if "a" in x:
             newlist.append(x)

         print(newlist)

         ['apple', 'banana', 'mango']
```



```
In [29]: list = ["apple", "banana", "cherry", "kiwi", "mango"]
         newlist = [x for x in list if "a" in x]
         print(newlist)

         ['apple', 'banana', 'mango']
```