List

In [6]:
```
course = ['python','java','R','c++']
```

In [7]:
```
type(course)
```

Out[7]:
```
list
```

In [8]:
```
l = len(course)
print("lenght of my list is : ",l)
```

```
lenght of my list is :  4
```

In [9]:
```
l1 = ["python",5,89,4.5]
type(l1)
```

Out[9]:
```
list
```

In [10]:
```
# access an element out of list
```

In [19]:
```
course = ['python','java','R','c++']
```

In [12]:
```
course[2]
```

Out[12]:
```
'R'
```

In [13]:
```
# list[a:b:c]  a = starting index, b = ending index (b-1), c =
course[0:3]
```

Out[13]:
```
['python', 'java', 'R']
```

In [18]:
```
course[0:3:2]
```

Out[18]:
```
['python', 'R']
```

In [20]:
```
course[0:4:3]
```

Out[20]:
```
['python', 'c++']
```

In [ ]:
```

```

In [21]:
```
fruits = ['apple','grapes','mango']
```

In [22]:
```
# append() : Adds an item to end of the list

fruits.append('orange')
fruits
```

Out[22]:
```
['apple', 'grapes', 'mango', 'orange']
```

In [23]:
```
print(fruits)
```

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

In [24]:
```
# insert(i,x): insert an item at given position (i = index, x =
fruits.insert(1,"papaya")
print(fruits)
```

```
['apple', 'papaya', 'grapes', 'mango', 'orange']
```

In [25]:
```
# extend() : we can append another list to main list using exte
citrus = ['orange','lime','grapes']
berries = ['strawberry','raspberry','blueberry']
citrus.extend(berries)
print(citrus)
```

```
['orange', 'lime', 'grapes', 'strawberry', 'raspberry', 'blueberry
']
```

In [26]:
```
# + operator
citrus = ['orange','lime','grapes']
berries = ['strawberry','raspberry','blueberry']
fruits = citrus + berries
print(fruits)
```

```
['orange', 'lime', 'grapes', 'strawberry', 'raspberry', 'blueberry
']
```

In [ ]:
```
# remove(x) :removes an element which is defined within functio
```

In [27]:
```
fruits.remove('lime')
print(fruits)
```

```
['orange', 'grapes', 'strawberry', 'raspberry', 'blueberry']
```

In [ ]:
```
# pop(i) : removes an element of which index is defined
# but if nothing defined within pop, it removes last element
```

In [28]:
```
fruits.pop()
print(fruits)
```

```
['orange', 'grapes', 'strawberry', 'raspberry']
```

In [29]:
```
# index() : returns location of particular element
# index(x,y,z) ----- x = element, y = starting index, z = endin
fruits.index('strawberry')
```

Out[29]: 2

In [32]:
```
fruits.index('strawberry',0,4)
```

Out[32]: 2

In [33]:
```
fruits.append('strawberry')
fruits
```

Out[33]: ['orange', 'grapes', 'strawberry', 'raspberry', 'strawberry']

In [36]:
```
# count(x) : gives count of a particular element

fruits.count('strawberry')
```

Out[36]: 2

In [ ]:
```
# sort : sorting of given list
```

In [37]:
```
fruits.sort()
print(fruits)
```

['grapes', 'orange', 'raspberry', 'strawberry', 'strawberry']

In [38]:
```
# reverse() : it converts list to current reverse version of it

fruits.reverse()
print(fruits)
```

['strawberry', 'strawberry', 'raspberry', 'orange', 'grapes']

In [39]:
```
# copy() = returns copy of the list

fruits_1 = fruits.copy()
print(fruits_1)
```

['strawberry', 'strawberry', 'raspberry', 'orange', 'grapes']

In [40]:
```
# clear() = removes all element from the list

fruits_1.clear()
print(fruits_1)
```

[]

In [41]:
```
fruits
```

Out[41]: ['strawberry', 'strawberry', 'raspberry', 'orange', 'grapes']

In [ ]:
```
```

List comprehension

In [52]:
```
# its a one liner solution on list
```

In [54]:
```
# normal method
new_list = []
for i in range(0,10):
    new_list.append(i)
print(new_list)
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [55]:
```
new_list_1 = [i for i in range(0,10)]
print(new_list_1)
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [56]:
```
lst = [1,2,3,4,5,6,7,8,9]

# i want to find numbers greater than 5
```

In [57]:
```
#normal method
blank_list = []
for i in lst:
    if i>5:
        blank_list.append(i)
print(blank_list)
```

```
[6, 7, 8, 9]
```

In [58]:
```
# using list comprehension

abc = [i for i in lst if i > 5]
print(abc)
```

```
[6, 7, 8, 9]
```

In [60]:
```
# using list comprehension

xyz = [i if i%2==0 else 0 for i in lst]
print(xyz)
```

```
[0, 2, 0, 4, 0, 6, 0, 8, 0]
```

In [65]:
```

b = [i if i>5 else 0 for i in lst]
print(b)
```

```
[0, 0, 0, 0, 0, 6, 7, 8, 9]
```

In [ ]:
```
1
```

In [ ]:
```
1
```

In [ ]:
```
1
```