In [ ]:
```
#3.Python list:
'''It's changeable
Allow Duplicates
len()
'''
```

In [9]:
```
#allow duplicates
list=['apple',32,False,32]
list
```

Out[9]:
```
['apple', 32, False, 32]
```

In [10]:
```
len(list)
```

Out[10]:
```
4
```

In [14]:
```
#change the value useing index
list[1]=42
list
```

Out[14]:
```
['apple', 42, False, 32]
```

In [15]:
```
#append()
list.append("orange")
list
```

Out[15]:
```
['apple', 42, False, 32, 'orange']
```

In [17]:
```
#insert)
list.insert(3,'mango')
list
```

Out[17]:
```
['apple', 42, False, 'mango', 'mango', 32, 'orange']
```

In [18]:
```
list1=['school','temble',23]
list1
```

Out[18]:
```
['school', 'temble', 23]
```

In [19]:
```
#extend
list.extend(list1)
list
```

Out[19]:
```
['apple', 42, False, 'mango', 'mango', 32, 'orange', 'school', 'temble', 2
3]
```

In [21]:
```
#remove
list.remove('mango')
list
```

Out[21]:
```
['apple', 42, False, 'mango', 32, 'orange', 'school', 'temble', 23]
```

In [22]:
```
#pop()
list.pop(6)
list
```

Out[22]:
```
['apple', 42, False, 'mango', 32, 'orange', 'temble', 23]
```

In [30]:
```
thislist = ["dev", "ops", "hack"]
for x in thislist:
  print(x)
```

```
dev
ops
hack
```

In [32]:
```
for i in range(len(thislist)):
  print(i)
```

```
0
1
2
```

In [34]:
```
i = 0
while i < len(thislist):
  print(thislist[i])
  i = i + 1
```

```
dev
ops
hack
```

In [35]:
```
i = 0
while i < len(thislist):
  print(i)
  i = i + 1
```

```
0
1
2
```

In [36]:
```
cs = ["java", "python", "c", "c++", ".net"]
newlist = []

for x in cs:
  if "a" in x:
    newlist.append(x)

print(newlist)
```

```
['java']
```

In [39]:
```
newlist = [x for x in cs if "c" in x]
newlist
```

Out[39]:
```
['c', 'c++']
```

In [ ]:
```
#Python Tuple:
'''It's changeable
```

```
Allow Duplicates
len()
'''
```

In [46]:
```
tuple = ("apple", "banana", "cherry", "apple", "cherry")
tuple
```

Out[46]:
```
('apple', 'banana', 'cherry', 'apple', 'cherry')
```

In [47]:
```
tuple = ("abc", 34, True, 40, "male",34)
tuple
```

Out[47]:
```
('abc', 34, True, 40, 'male', 34)
```

In [52]:
```
print(tuple[2:4])
tuple
```

```
(True, 40)
```

Out[52]:
```
('abc', 34, True, 40, 'male', 34)
```

In [ ]:
```
#Python Set
'''
unordered
unchangable
not duplicated
'''
```

In [59]:
```
set = {"apple", "banana", "cherry","banana", True, 1, 2,2}
set
```

Out[59]:
```
{2, True, 'apple', 'banana', 'cherry'}
```

In [62]:
```
len(set)
```

Out[62]:
```
5
```

In [63]:
```
set.add('orange')
set
```

Out[63]:
```
{2, True, 'apple', 'banana', 'cherry', 'orange'}
```

In [64]:
```
set.remove(2)
set
```

Out[64]:
```
{True, 'apple', 'banana', 'cherry', 'orange'}
```

In [66]:
```
set.discard('banana')
set
```

Out[66]:
```
{True, 'apple', 'cherry', 'orange'}
```

In [ ]:
```
#Python Dictionary
```

In [67]:
```
thisdict =      {
  "brand": "Ford",
  "model": "Mustang",
  "year": 1964
}
print(thisdict)
```

```
{'brand': 'Ford', 'model': 'Mustang', 'year': 1964}
```

In [68]:
```
thisdict =      {
  "brand": "Ford",
  "model": "Mustang",
  "year": 1964
}
print(thisdict["brand"])
```

```
Ford
```

In [69]:
```
thisdict =      {
  "brand": "Ford",
  "electric": False,
  "year": 1964,
  "colors": ["red", "white", "blue"]
}
thisdict
```

Out[69]:
```
{'brand': 'Ford',
 'electric': False,
 'year': 1964,
 'colors': ['red', 'white', 'blue']}
```

In [ ]:
```

```