## Bytes and Bytearray

In Python2 bytes concept is not available, if we use bytes concept in python 2 we get as string type

```
>>> l = [10,20,30]
>>> b = bytes(l)
>>> print(type(b))
<type 'str'>
```

In Pyhton3 we are having bytes concept.

```
>>> l = [10,20,30]
>>> b = bytes(l)
>>> print(type(b))
<class 'bytes'>
```

1. Bytes and Bytearray it can convert objects into byte objects
2. Byte and Bytearray allows indexing and slicing
3. Where byte is immutable and byte array is mutable.

Bytes (immutable)

```
b = bytes
print(b) #<class 'bytes'>

#We get byte value in hexadecimal format
b = bytes(1)
print(b) #b'\x00'

#Pass list in bytes()
b = bytes([1,2,3,4,5])
print(b) #b'\x01\x02\x03\x04\x05'

# Pass set in bytes()
b = bytes({1,2,3,4,5,1,2})
print(b) #b'\x01\x02\x03\x04\x05'

# Pass tuple in bytes()
b = bytes((1,2,3,4,5,1,2))
print(b) #b'\x01\x02\x03\x04\x05\x01\x02''

# Pass dict in bytes() key(int):value(int)
b = bytes({65:1, 66:2, 67:3, 68:4, 69:5})
print(b) #b'ABCDE'

# Pass dict in bytes() key(int):value(int)
b = bytes({1:1, 2:2})
print(b) # b'\x01\x02'

# Pass dict in bytes()key(str):value(int)
b = bytes({'Hi':1, "Hello":2})
print(b) # TypeError: 'str' object cannot be interpreted as an integer

#Reverse the bytes, there is no method reverse() in bytes()
b.reverse()
print(b)
#AttributeError: 'bytes' object has no attribute 'reverse'
```

```
#Append/Mutate the byte, there is no method append() in bytes()
b.append(1)
print(b)
#AttributeError: 'bytes' object has no attribute 'append'
```

```
# iterate bytes
l = [10,20,30,40]
b =  bytes(l)
print(type(b)) #<class 'bytes'>
for x in b:
    print(x)

10
20
30
40

#Indexing
print(b[2]) #30

#byte is immutable, we cannot change the content
x = b[0] = 50
print(x) #TypeError: 'bytes' object does not support item assignment
```

```
# bytearray
b = bytearray
print(b) #<class 'bytearray'>

#We get bytearray value in hexadecimal format
b = bytearray(1)
print(b) #bytearray(b'\x00')

#Pass bytearray using list
b = bytearray([1,2,3,4,5])
print(b) #bytearray(b'\x01\x02\x03\x04\x05')

#Reverse the bytes
b.reverse()
print(b) #bytearray(b'\x05\x04\x03\x02\x01')

#bytearray using append
b.append(1)
print(b) #bytearray(b'\x05\x04\x03\x02\x01\x01')
```

```
#bytearray
l = [10,20,30,40,50]
b = bytearray(l)
print(type(b)) #<class 'bytearray'>
print(b[0]) # 10
print(b[1]) # 20

#bytearray is mutable, we can change the content
x = b[0] = 60
print(x) #60
```