In [ ]:
```
# [] it is list
```

In [5]:
```
spam=[1,2,3,4]
spam.insert(2,"hello")
print(spam) # hello add in 3 rd index
```

```
[1, 2, 'hello', 3, 4]
```

In [6]:
```
spam=[int(int('3' * 2) / 11)]
spam
```

Out[6]:
```
[3]
```

In [7]:
```
spam=["a","b","c","d"]
spam[-1] # we get last value of the list
```

Out[7]:
```
'd'
```

In [8]:
```
 spam[:2] # we get first two value of vthe list
```

Out[8]:
```
['a', 'b']
```

In [12]:
```
list= [3.14, "cat", 11, "cat" ,True]
l=[i for i in range(len(list)) if list[i]=="cat"] # index of cat
l
```

Out[12]:
```
[1, 3]
```

In [32]:
```
list= [3.14, "cat", 11, "cat" ,True]
list.append(99)
list
```

Out[32]:
```
[3.14, 'cat', 11, 'cat', True, 99]
```

In [33]:
```
list.remove("cat")
list
```

Out[33]:
```
[3.14, 11, 'cat', True, 99]
```

In [ ]:
```
# append is adding element at the end of the list
# insert also adding element in specefied place (ex we can use middle of the
```

In [ ]:
```
# for removing purpose elements in list two methods
# remove
# discard
```

In [ ]:
```
# list is mutuable (means we change after creating the object)
# list has a variable length
# list have a so many methods (ex append,index,slicing)
#tuple is immutuable (means we can't change after creating the object)#
#tuple has a no variable length
# tuple have no methods like list
```

In [34]:
```
list=[1,2,3,4,5]
t=tuple(list)
t
```

Out[34]:
```
(1, 2, 3, 4, 5)
```

In [ ]:
```
t=(1,2,3,4,5)
print(list(t))
```

In [ ]:
```
# in list not only stored list values we stored tuple values ,dict values,se
```

In [48]:
```
x=[1,4,5,6,7,89,67]
y=x.copy() # copy doesn't create new object
print(x)
print(y)
```

```
[1, 4, 5, 6, 7, 89, 67]
[1, 4, 5, 6, 7, 89, 67]
```

In [53]:
```
import copy
```

In [90]:
```
x=[1,4,5,6,7,89,67]
y=copy.deepcopy(x) # deep copy creates new object
x[1]="sabareesh"
print(x)
print(y)
```

```
[1, 'sabareesh', 5, 6, 7, 89, 67]
[1, 4, 5, 6, 7, 89, 67]
```

In [61]:
```
c=copy.copy(x)
c
```

Out[61]:
```
[1, 'sabareesh', 5, 6, 7, 89, 67]
```

In [77]:
```
x=[1,2,3,5,"raju","harsha"]
y=x.copy()
print(x)
print(y)
```

```
[1, 2, 3, 5, 'raju', 'harsha']
[1, 2, 3, 5, 'raju', 'harsha']
```

In [78]:
```
x=[[1,2,3,5],[6,7,8]]
y=copy.deepcopy(x)
y[0][1]="sabareesh"
print(x)
print(y)
```

```
[[1, 2, 3, 5], [6, 7, 8]]
[[1, 'sabareesh', 3, 5], [6, 7, 8]]
```

In [89]:
```
x=[[1,2,3,5],[6,7,8]]
y=copy.deepcopy(x)
x[0][1]="sabareesh"
#y=copy.deepcopy(x)
print(x)
print(y)
```

```
[[1, 'sabareesh', 3, 5], [6, 7, 8]]
[[1, 2, 3, 5], [6, 7, 8]]
```

In [ ]:
```
1
```