Just to define a coule of lists fot the start...

In [36]:
```
l=[1,2,3,4,5]
```

In [7]:
```
ls=['dude','this','is','it']
```

In [8]:
```
whos
```

```
Variable   Type    Data/Info
---------------------------
l          list    n=5
ls         list    n=4
```

In [9]:
```
type(l[0])
```

Out[9]:
```
int
```

In [10]:
```
type(ls[0])
```

Out[10]:
```
str
```

In [11]:
```
l+ls  # combinig two list
```

Out[11]:
```
[1, 2, 3, 4, 5, 'dude', 'this', 'is', 'it']
```

In [12]:
```
l1=[1,2,3]
```

In [13]:
```
l2=[3,4,5]
```

In [14]:
```
l1+l2
```

Out[14]:
```
[1, 2, 3, 3, 4, 5]
```

To do math we need arrays, 'ndarray' python object, which will come in next part, when introducing numpy

In [15]:
```
l1[0]+l2[0] #but when we choose a certain value from the list we can simply do math
```

Out[15]:
```
4
```

offcourse if we have a big list and want to do each element with a corresponding one from other list this would be tedious. For that there is ndarrays.

More on lists

Slicing

In [37]:
```
l
```

Out[37]:
```
[1, 2, 3, 4, 5]
```

In [38]:
```
l[0:3]
```

Out[38]:
```
[1, 2, 3]
```

In [47]:
```
l[-2:-1]  #up untill the last !
```

Out[47]:
```
[4]
```

In [48]:
```
l[-2:]    #the last included as well!!
```

Out[48]:
```
[4, 5]
```

In [39]:
```
l.reverse()
```

In [40]:
```
l
```

Out[40]:
```
[5, 4, 3, 2, 1]
```

In [43]:
```
l[0:2]
```

Out[43]:
```
[5, 4]
```

In [44]:
```
l.reverse()  #reversing it again
```

In [45]:
```
l
```

Out[45]:
```
[1, 2, 3, 4, 5]
```

Index and looking for a value

In [55]:
```
l.index(4)   # searching for the value 4 , Where is 4? which is it's index (place in the list)????
```

Out[55]:
```
3
```

In [56]:
```
#so the index of the value 4 is 3! Don't get confused!
```

In [57]:
```
l[3] #picking the index 3
```

Out[57]:
```
4
```

In [53]:
```
5 in l   # just to check if value 5 is in the l list
```

Out[53]:
```
True
```

In [54]:
```
#yes, it't there !
```

In [ ]:
```

```