Map_Reduce_&_Filter_Functions(DATA_MINDS)

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MAP - THE WORK OF MAPPER IS ONLY TO GIVE THE OUTPUT ON BEHALF OF OUR FUNCTION AND ITERATOR.

IN VERY SIMPLE TERMS IT MAP THE ENTIRE DATA.

[1]:
```
l=[2,5,6,4,8,7]
```

[5]:
```
def test(l):
    v=[]
    for i in l:
        v.append(i**2)
    return v
```

[6]:
```
test(l)
```

[6]:
```
[4, 25, 36, 16, 64, 49]
```

[7]:
```
def sq(x):
    return x**2
```

[10]:
```
list(map(sq,l))
```

[10]:
```
[4, 25, 36, 16, 64, 49]
```

[15]:
```
list(map(lambda x:x**2,l))
```

[15]:
```
[4, 25, 36, 16, 64, 49]
```

[16]:
```
list(map(lambda x:x**2,l))
```

[16]:
```
[4, 25, 36, 16, 64, 49]
```

[22]:
```
s={"Virat":22,"Class":"Python","Pc":"HP"}
```

[23]:
```
s
```

[23]:
```
{'Virat': 22, 'Class': 'Python', 'Pc': 'HP'}
```

[24]:
```
dict.keys
```

[24]:
```
<method 'keys' of 'dict' objects>
```

[30]:
```
s.keys()
```

[30]:
```
dict_keys(['Virat', 'Class', 'Pc'])
```

[31]:
```
s.values()
```

[31]:
```
dict_values([22, 'Python', 'HP'])
```

[33]:
```
a=[1,2,5,6,4,5]
b=[9,25,7,0,6,8]

list(map(lambda x,y:x+y,a,b))
```

[33]:
```
[10, 27, 12, 6, 10, 13]
```

[34]:
```
#THIS IS HOW WE ADD LIST WITH THE HELP OF LAMBDA FUNCTION

a=[1,2,3,6,5,4,7,8,9]
b=[5,1,9,7,3,0,6,4,1]
c=[22,44,66,99,44,33,22,77,88]
d=[10,20,50,40,30,60,80,70,90]
```

[40]:
```
list(map(lambda w,x,y,z:w+x+y+z,a,b,c,d))
```

[40]:
```
[38, 111, 106, 119, 137, 108, 126, 104, 127]
```

[49]:
```
#WE ALSO DONE SAME THING WITH THE HELP OF MAKING ADD() FUNCTION

def add(a,b,c,d):
    return a+b+c+d
```

[50]:
```
list(map(add,a,b,c,d))
```

[50]:
```
[38, 111, 106, 119, 137, 108, 126, 104, 127]
```

[51]:
```
name="Virat Tiwari"
```

[52]:
```
name
```

[52]:
```
'Virat Tiwari'
```

[53]:
```
name.upper()
```

[53]:
```
'VIRAT TIWARI'
```

[55]:
```
name.lower()
```

[55]:
```
'virat tiwari'
```

[56]:
```
name.replace("Virat","Samrat")
```

[56]:
```
'Samrat Tiwari'
```

[58]:
```
name="Virat tiwari"
list(map(lambda name:name.upper(),name))
```

[58]:
```
['V', 'I', 'R', 'A', 'T', ' ', 'T', 'I', 'W', 'A', 'R', 'I']
```

REDUCE - IT REDUCE THE ENTIRE LIST AND GIVE THE SINGLE ENTITY

[60]:
```
#This is how we import thr reduce() function

from functools import reduce
```

[69]:
```
a=[2,5,6,4,9]
```

[70]:
```
reduce(lambda x,y:x+y,a)
```

[70]:
```
26
```

[71]:
```
reduce(lambda x,y : x*y,a)
```

[71]:
```
2160
```

[72]:
```
reduce(lambda x,y:x if x>y else y,a)
```

[72]:
```
9
```

[74]:
```
reduce(lambda x,y:x if x<y else y,a)
```

[74]:
```
2
```

FILTER -

[75]:
```
l=[2,5,4,9,0,4,6,3,7,9,4,5,100,9]
```

[81]:
```
list(filter(lambda x:x%2!=0,l))
```

[81]:
```
[5, 9, 3, 7, 9, 5, 1, 9]
```

[82]:
```
a=[2,5,-8,12,-96,-13,4,6,5,-258,-36]
```

[83]:
```
list(filter(lambda x:x<0,a))
```

[83]: [-8, -96, -13, -258, -36]

[84]:
```
b=["Virat","Yash","Rohit","Happy"]
```

[85]:
```
b
```

[85]: ['Virat', 'Yash', 'Rohit', 'Happy']

[90]:
```
list(filter(lambda x:len(x)<6,b))
```

[90]: ['Virat', 'Yash', 'Rohit', 'Happy']

[91]:
```
list(filter(lambda x:len(x)>6,b))
```

[91]: []