Full stack web development using python

Map, reduce and filter

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Agenda

1. map
2. reduce
3. filter

Higher - order functions

Higher - order function takes function as a parameter and return a function.

① map()

② reduce()

② filter()

map()

map (function , iterables)

```
def square(a):
    return a*a                        1  4  9  16

x = map ( square , [1,2,3,4] )
# x is a map object
l1 = list(x)      or      for e in x:
                              print(e, end=' ')
```

filter()

filter (function , iterables)

The filter function is used to generate an output list of values that return true when the function is called

```
def f(x):
    if x >= 3:
        return x

y = filter (f, (1,2,3,4))
l1 = list(y)
```

reduce()

reduce (function, iterables)

The reduce function applies a provided function to iterables and return a single value

```
from functools import reduce
x=reduce( lambda a,b: a+b , [1,2,3,4])
print(x)
```

1   2   3   4
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  \ | | |
   3_| | |
     6_ |
       10