map_reduce_filter

Mohammad Tasin (Tasin Coder)

Agenda

➢ **map**

➢ **reduce**

➢ **filter**

map

- map() function returns a map object (iterable) of the results after applying the given function to each item of a given iterable. Ex:- (list, tuple, range, etc).

- Syntax :-- map(function, iterable)

Map code

```python
l1 = [1,2,3,4,5,6,7,8,9]

def find_even(n):

        return n*n

m1 = list(map(find_even,l1))

for _ in m1:

    print(_,end=' ')
```

reduce

- reduce() return single value.
- The reduce(function, iterable) function is defined in functools models.
- Just like map function, argument function is applied to all the element of argument iterable in reduce method.
- map returns an iterable, where as reduce returns an accumulated single value.

Reduce code

```python
import functools

l1 = [1,2,3,4,5]


def Factorial(a, b):

        return a*b

print(functools.reduce(Factorial,l1))
```

filter

- The filter method filters a given iterable with the help of a function that tests each element in the iterable to be True or not.

- Syntax :- filter(Function, iterable)

Filter code

```python
l1 = [1,2,3,4,5,6,7,8,9,10]
def Filter_Even(n):
    if(n%2==0):
        return True
    return False
f1 = list(filter(Filter_Even, l1))
print(f1)
```