

Filter()

- The filter() function construct a list from those elements of the list for which a function returns True.

filter(func, iterable)

In [29]:

```
num=[15,20,35,2,6,12,56,89,34,23,67,10]

def greater_10(n):
    if n>10:
        return 1

if __name__=='__main__':
    rslt = list(filter(greater_10,num))
    print(rslt)
```

[15, 20, 35, 12, 56, 89, 34, 23, 67]

- The filter() function return True or False.
- Only values which are greater than 10 are visible in the newly created list.

map()

- The map function applies a particular funtion to every element of a list.
- map(func,iterable)

In [30]:

```
num1=[15,20,35,2,6,12,56,89,34,23,67,10]

def divide_2(n):
    return n/2

if __name__=='__main__':
    new_list = list(map(divide_2,num1))
    print(new_list)
```

[7.5, 10.0, 17.5, 1.0, 3.0, 6.0, 28.0, 44.5, 17.0, 11.5, 33.5, 5.0]

- After applying a function on the list the map() returns a modified list.
- You can pass any no. of iterable to map function.
- fuction should have same no. of arguments as the no. of iterables in map function.
- Each argument is called with corresponding item for each sequence.

In [31]:

```
a_marks=[75,80,68,45,67,58]
b_marks=[89,67,94,50,49,79]

def compare(n,n2):
    if n>n2:
        return n
    else:
        return n2

if __name__=='__main__':
    max_marks = list(map(compare,a_marks,b_marks))
    print(max_marks)
```

```
[89, 80, 94, 50, 67, 79]
```

Reduce()

- The reduce() function with syntax as given below returns a single value generated by calling the function on the first two items of the iterable, then on the result and the next item.
- reduce(func, iterable)

In [32]:

```
from functools import reduce

marks=[33,56,78,90,56,67]

def add(a,b):
    return a+b

print(reduce(add,marks))
```

380

In []:

In []: