Reduce function accepts two arguments, the function to perform the execution and the data to iterate over.

Unlike **filter and map, reduce** iterates two items/elements at a time instead of one.

The result of reduce is to always return a single result.

Syntax: reduce(fun, sequence)

```
lst = [12, 14, 16, 4, 18]
x = 12
y = 14
if x<y:
   print(x) # 12
else:
   print(y)

x = 12
y = 16
if x<y:
   print(x) # 12
else:
   print(y)

x = 12
y = 4
if x<y:
   print(x) # 4
else:
   print(y)

x = 4
y = 18
if x<y:
   print(x) # 4
else:
   print(y)
```

Case Study

```
from functools import reduce

lst = [12, 14, 16, 4, 18]

# find the sum of all numbers
r = reduce(lambda x, y: x+y, lst)
print(r) # 64

# 12 + 14 = 26
# 26 + 16 = 42
# 42 + 4 = 46
# 46 + 18 = 64

# find the lowest value
r = reduce(lambda x, y: x if (x < y) else y, lst)
print(r) # 4
```