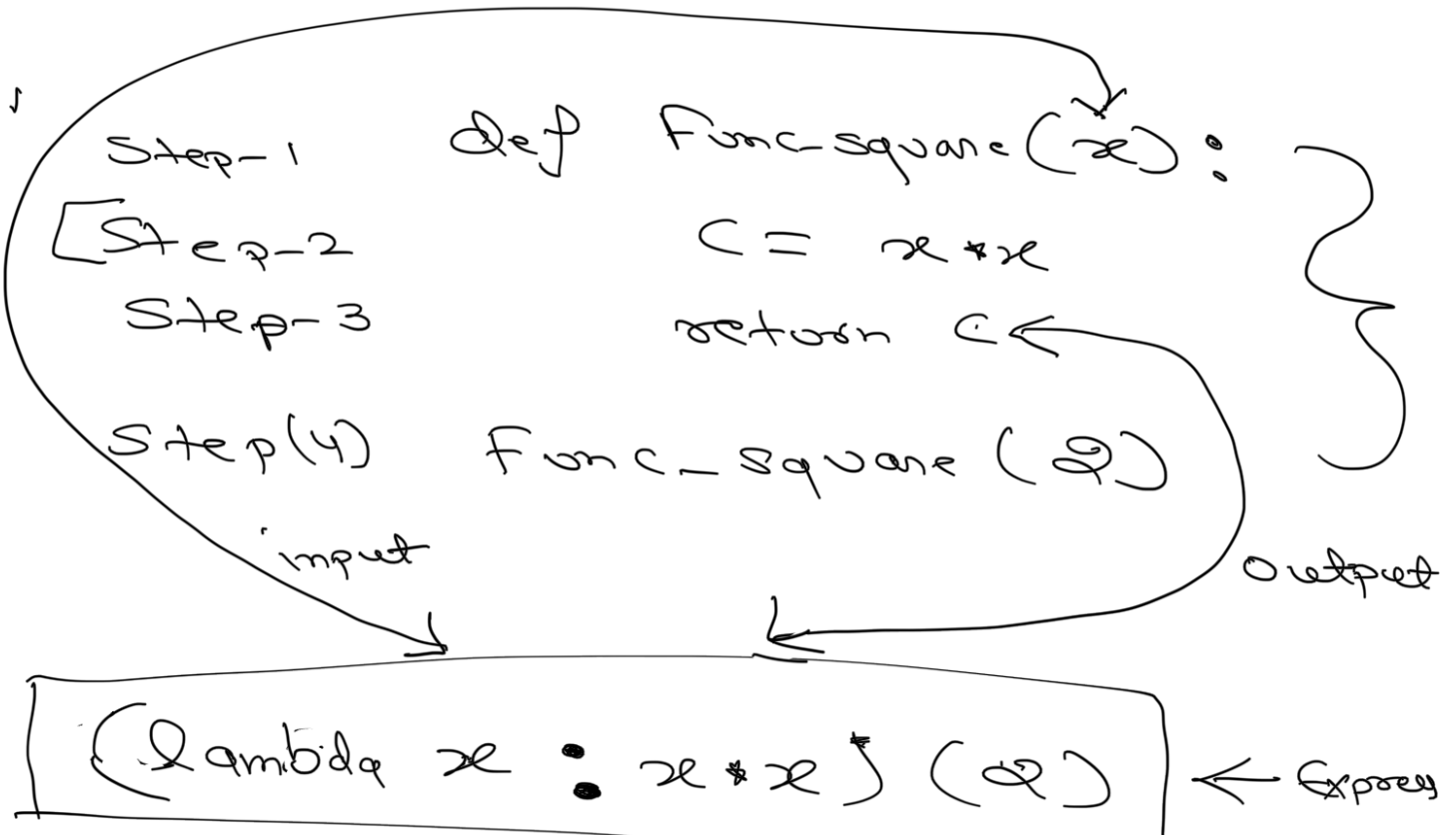
Functional Programming

- Traditional Programming
  ee "How to do"

- Functional Programming
  ee "What to do"

Ex:

- To write program which computes square of a number and returns it.



I replaced all the steps of procedure with a single Expression.

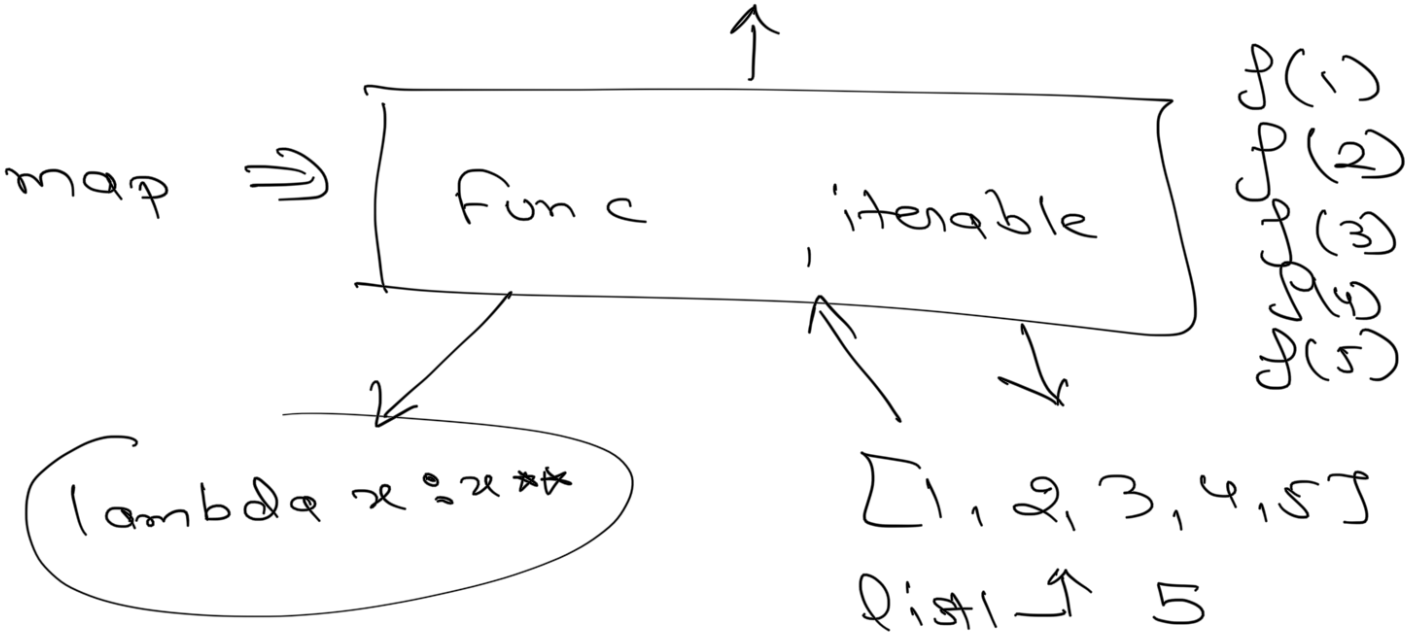
LHS : RHS
↓ ↓
lambda input : output

DEFX eg ✓

⇒ lambda functions are also known as anonymous function
↓
(No name)

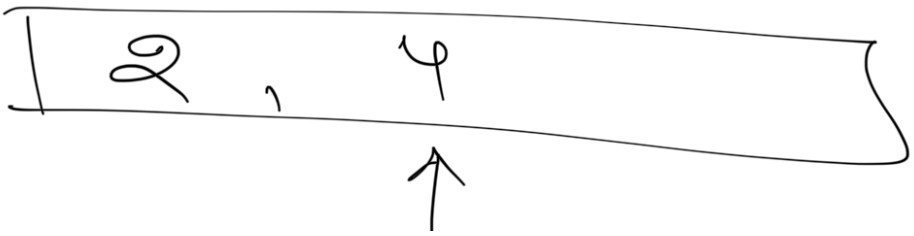
Map Function

[1, 4, 9, 16, 25]

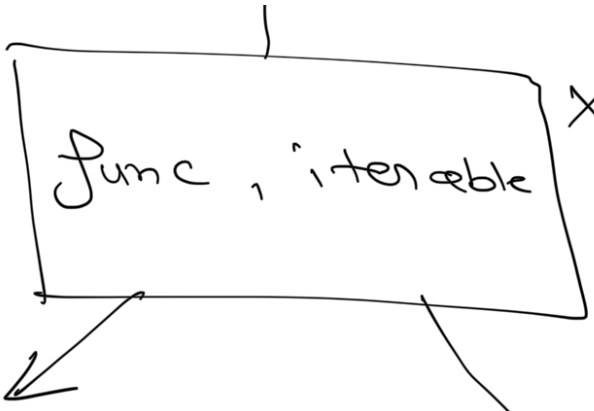


You can replace for loop where you have to apply some operation to each member of iterable.

Filter



Filter



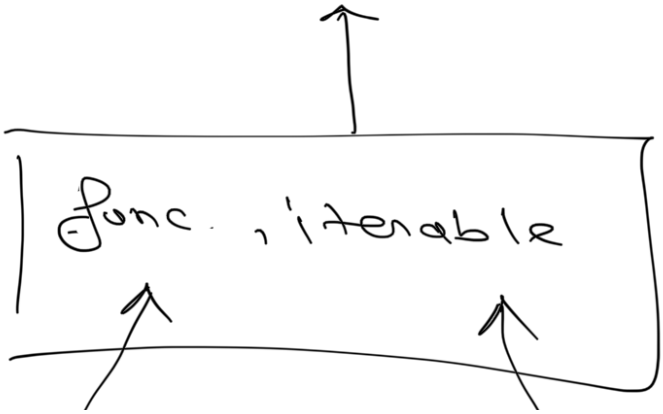
x p(1) == T
x p(2) == T
x p(3) == T
x p(4) == T
x p(5) == T

lambda x : x%2==0

[1, 2, 3, 4, 5]

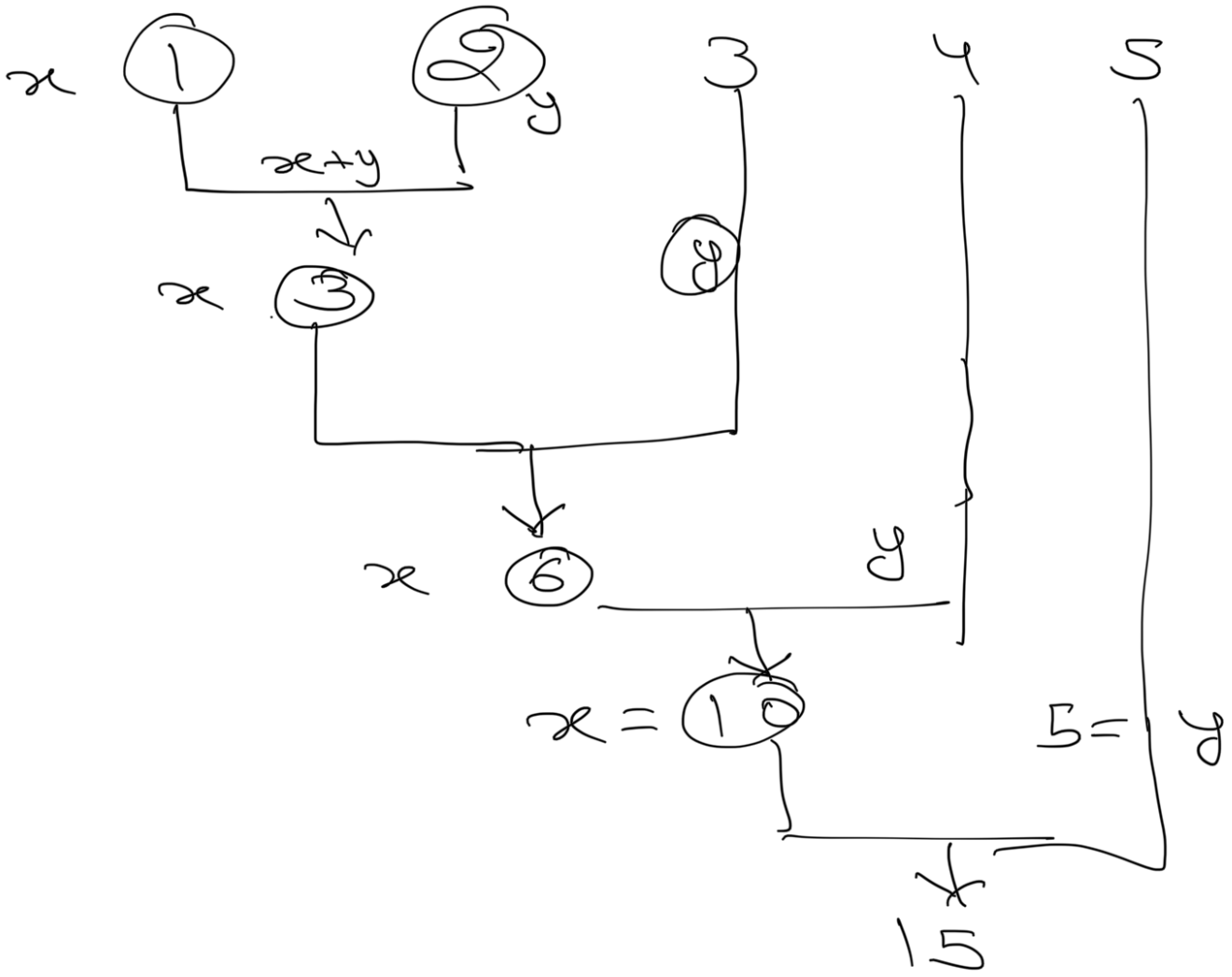
output of function
should be
Boolean

Reduce



[1, 2, 3, 4, 5]

lambda x, y : x + y



→ 15 ⇐ reduce (lambda x, y : x + y, list)