

In this Video you will learn...

Functional Programming basics

Functional Programming (FP)

- mathematical concept of “Lambda Calculus
- 1st implementation was LISP in the 50s
- Haskell is part of every computer science curriculum since the 90s
- Scala most recent representative
- Python, R and Java also rudimentary support FP

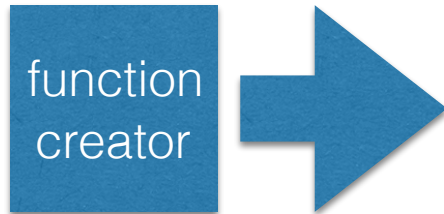
Idea

Idea

A blue square logo with the text "function creator" in white, lowercase letters.

function
creator

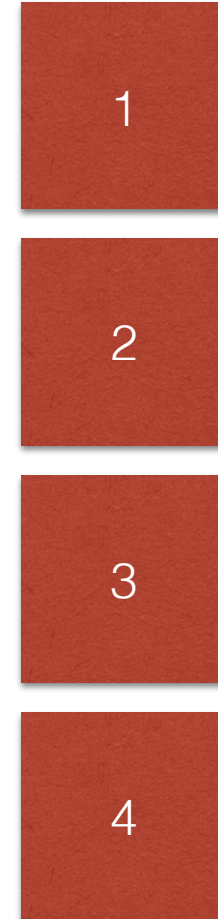
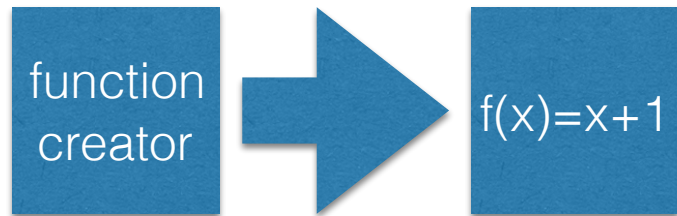
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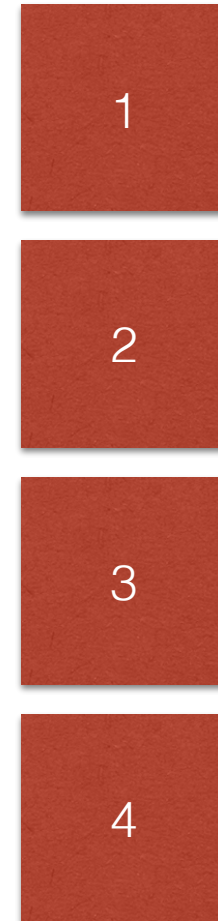
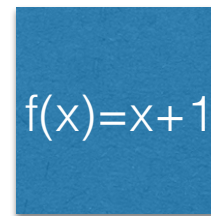
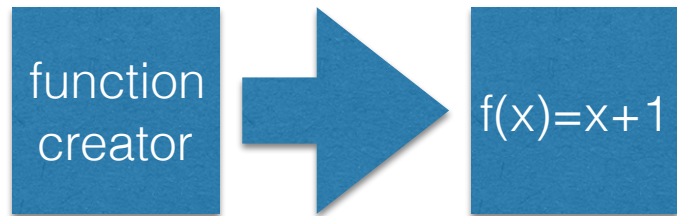
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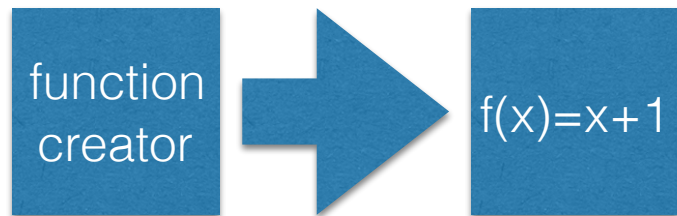
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Idea



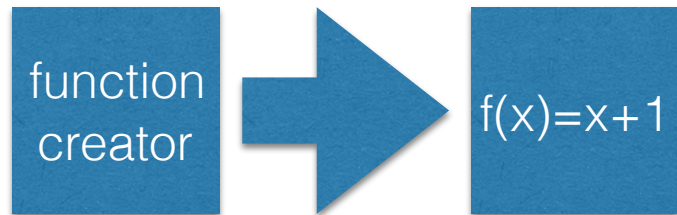
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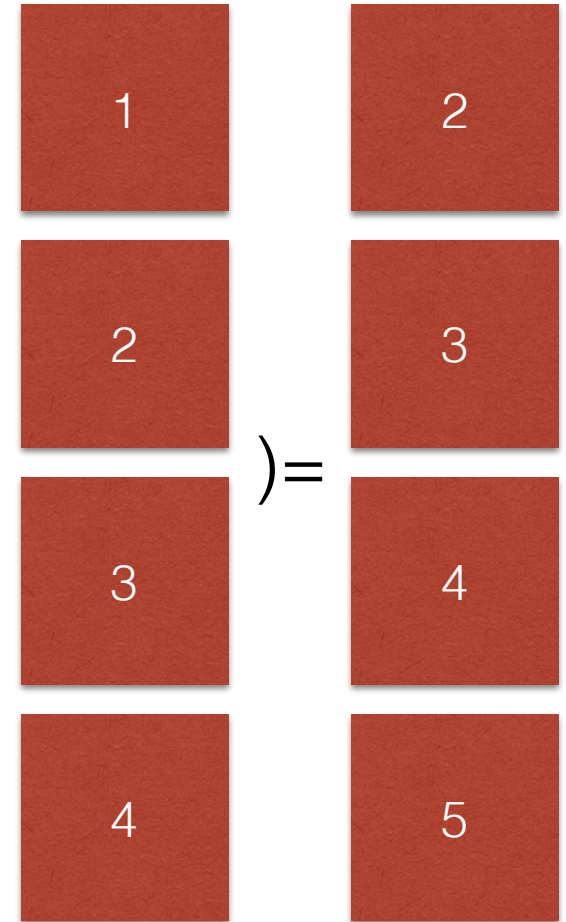
apply($f(x)=x+1$,



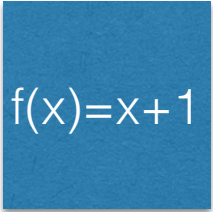
Idea



apply($f(x)=x+1$,



Parallelisation


$$f(x)=x+1$$

Parallelisation

$$f(x)=x+1$$

1

2

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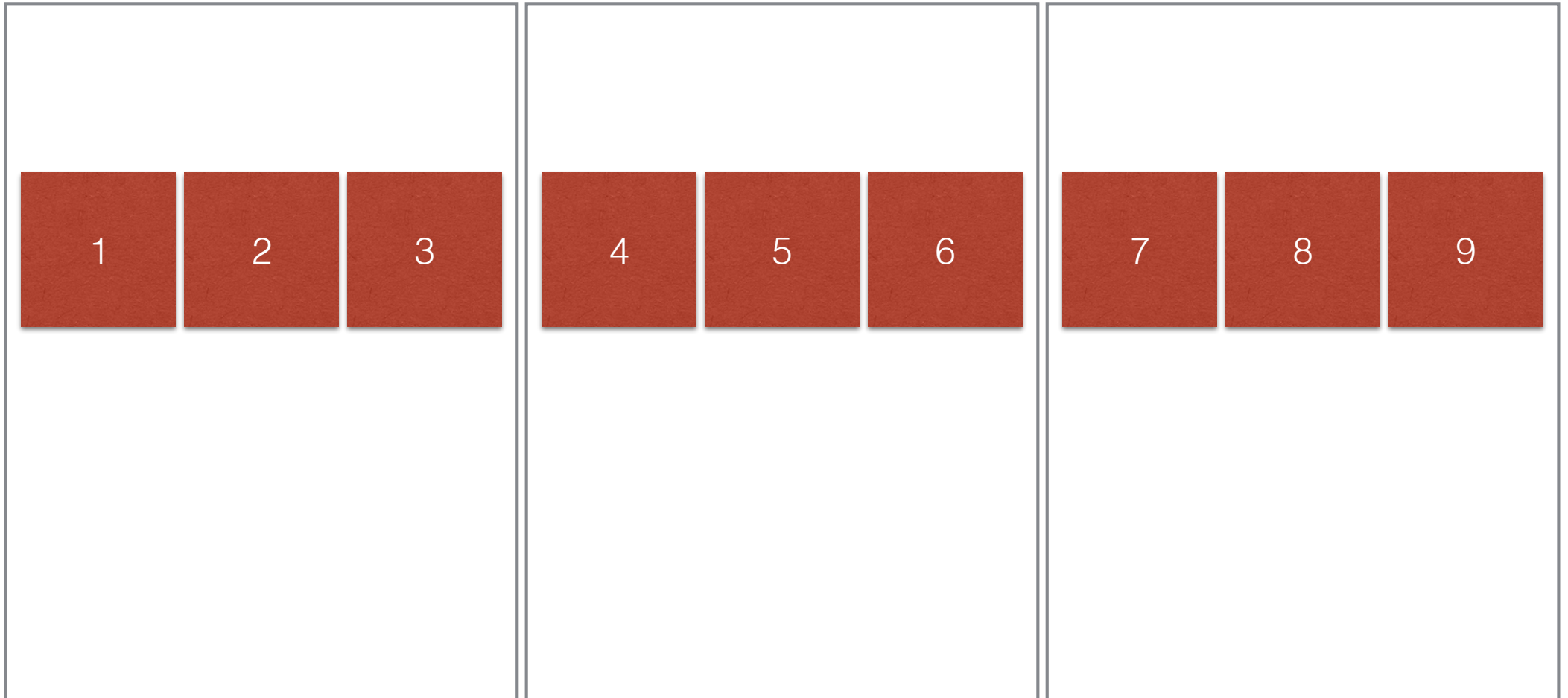
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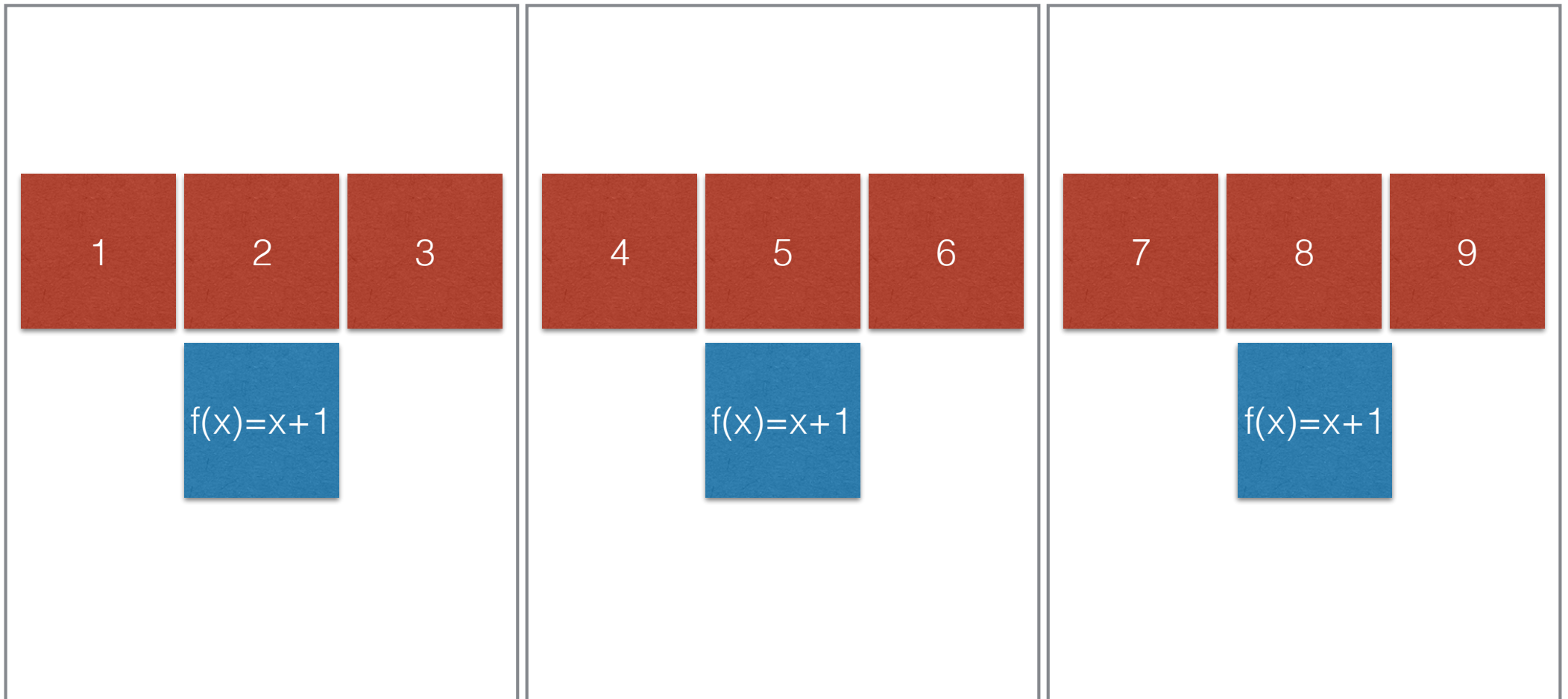
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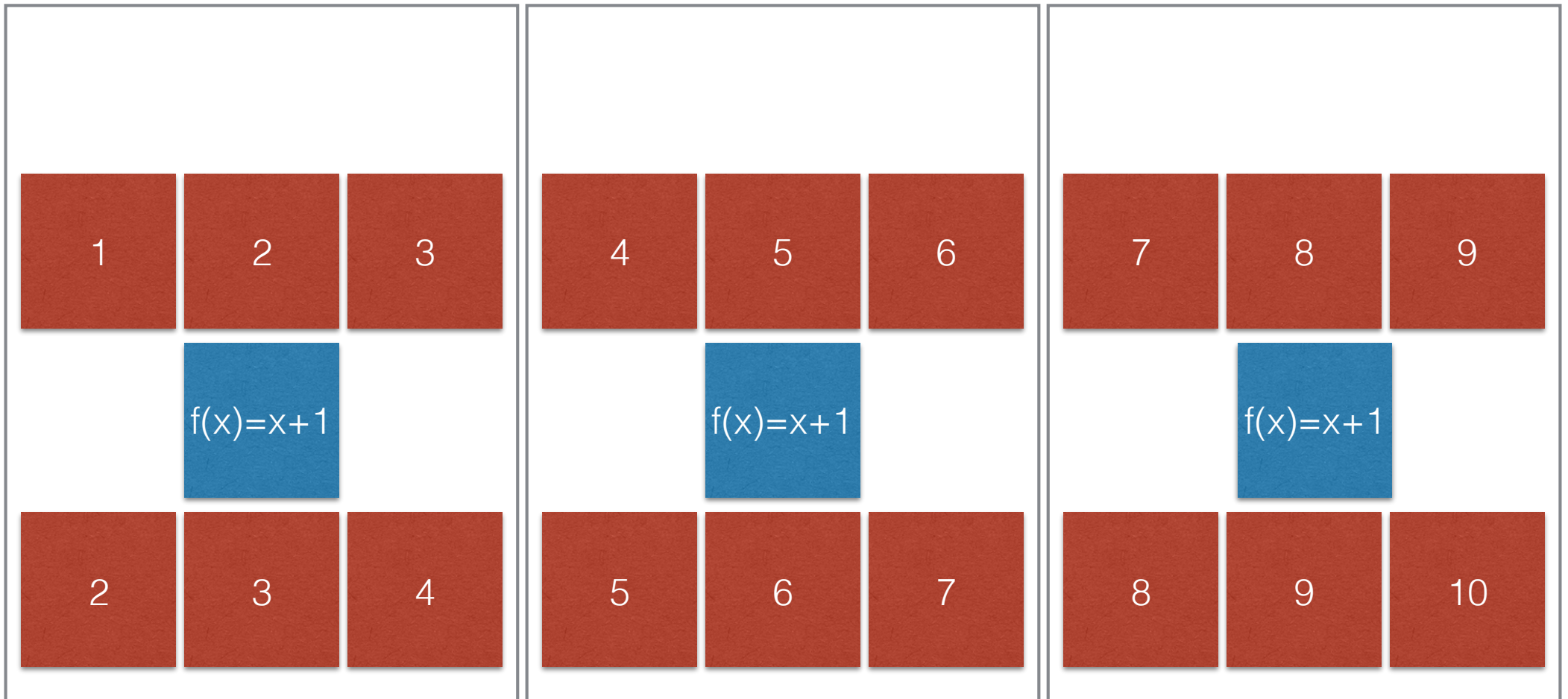
Parallelisation



Parallelisation



Parallelisation



FP using Python and Spark

Video

a0_m2_p5_v1

Summary

- ApacheSpark parallelises computations using the lambda calculus
- All functional spark programs are inherently parallel

Quiz

- What is the result of the following code:
`sc.parallelize(range(1,101)).map(lambda x : x*2).reduce(lambda a,b : a+b).collect()`
 - 10100
Correct
 - 12313
False
 - 101010
False
 - 505050
False
 - 10010
False

The next video covers...

ApacheSparkSQL