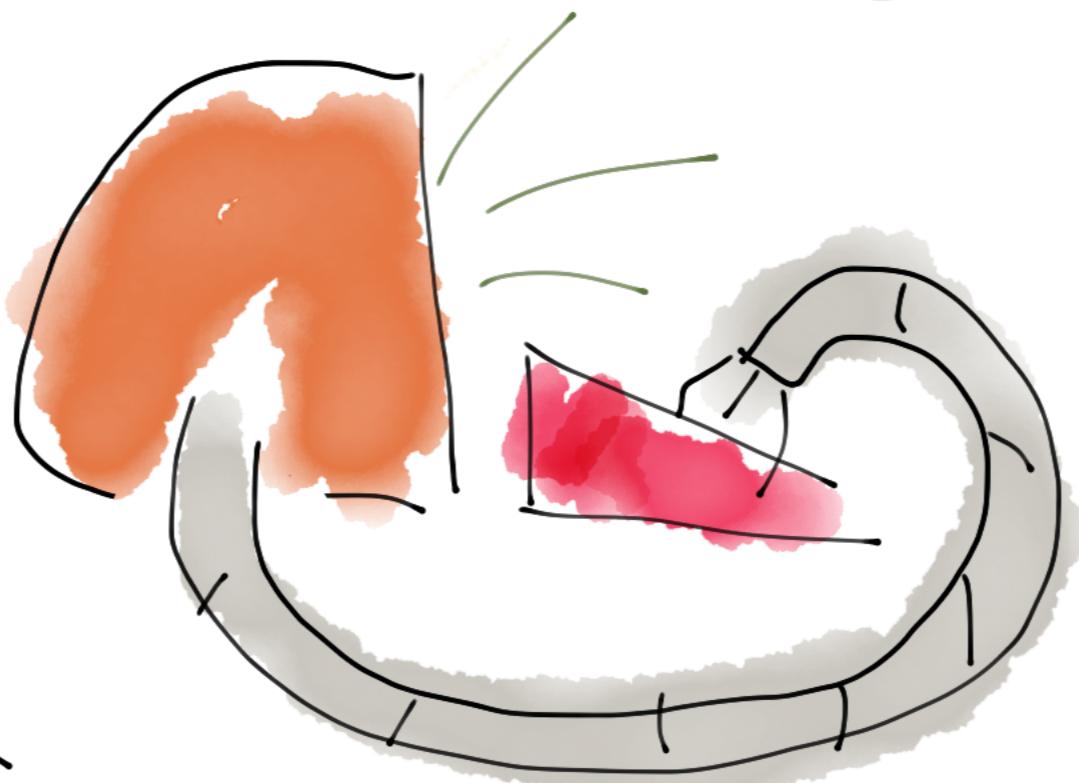


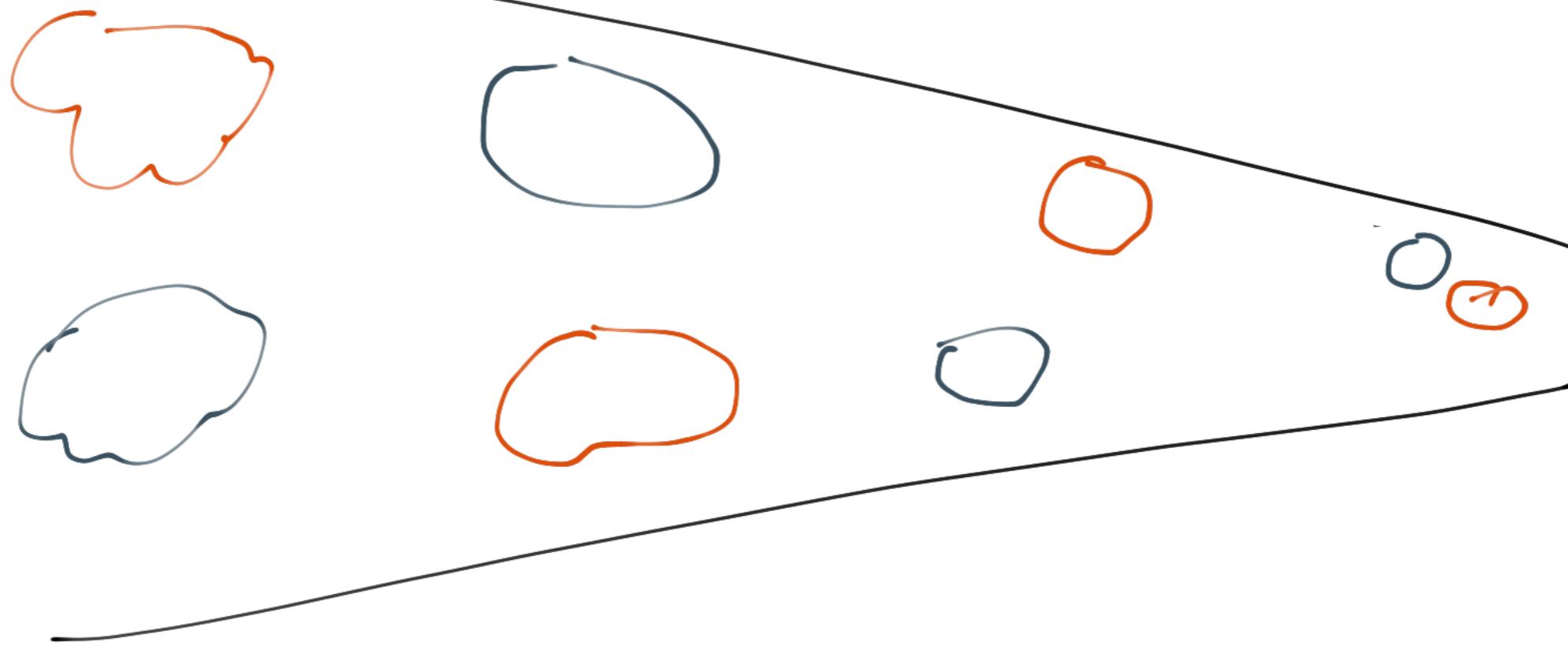
Computer,
Program Thyself



@zspencer

zespencer.com/rmw13

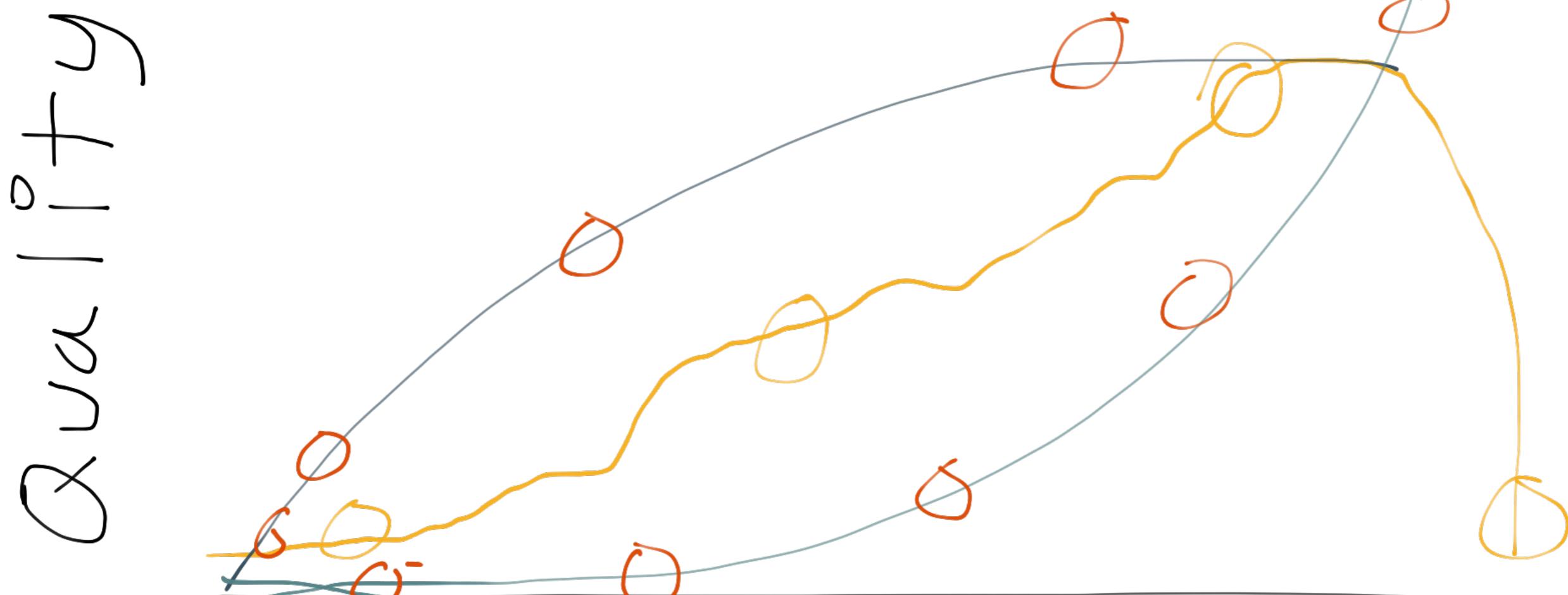
Learning Funnel



???
o o o

Hunch

Algo

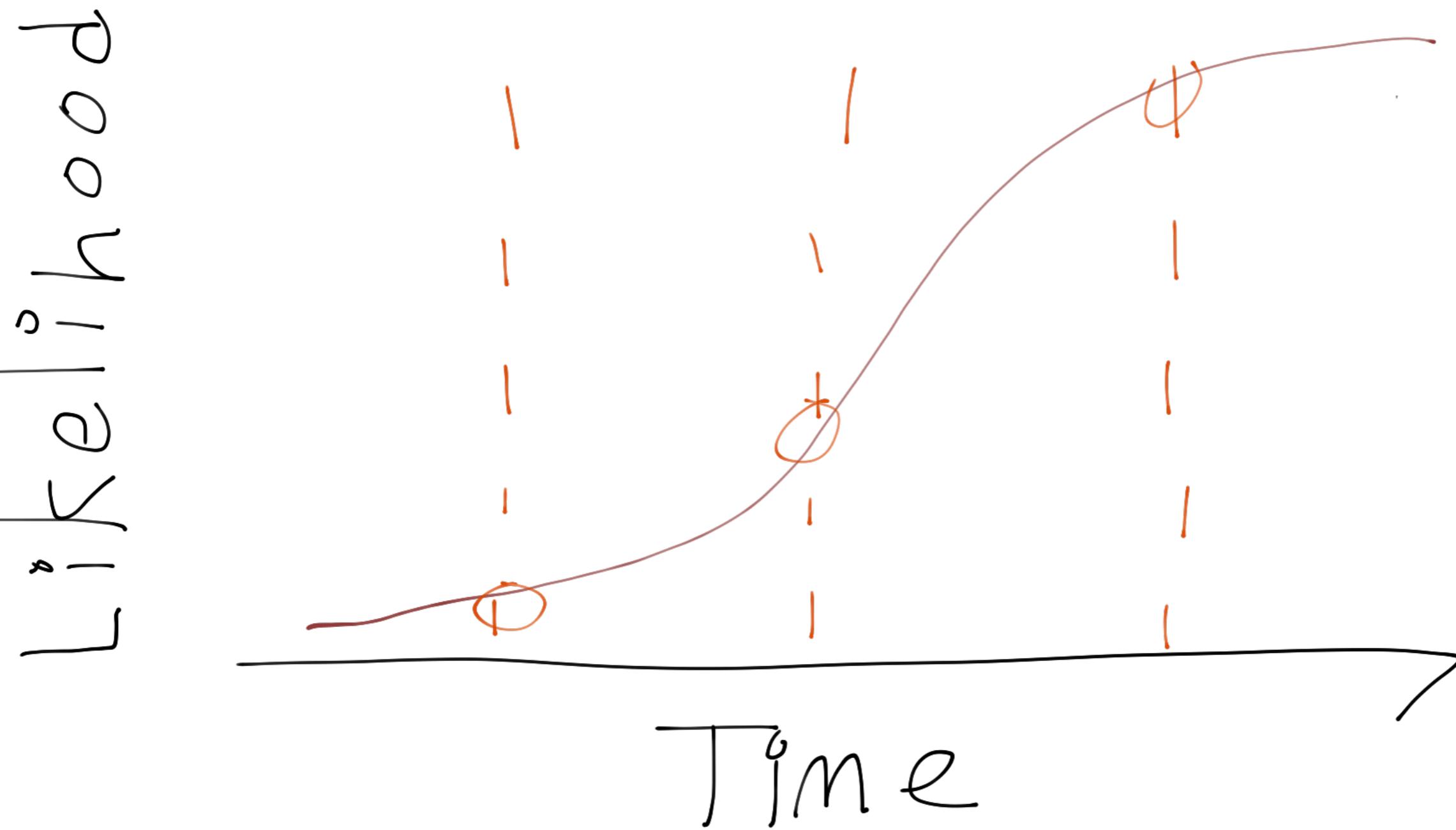


???

Hunch

Algo

Risk Management



How do we

improve our

chances 212
000

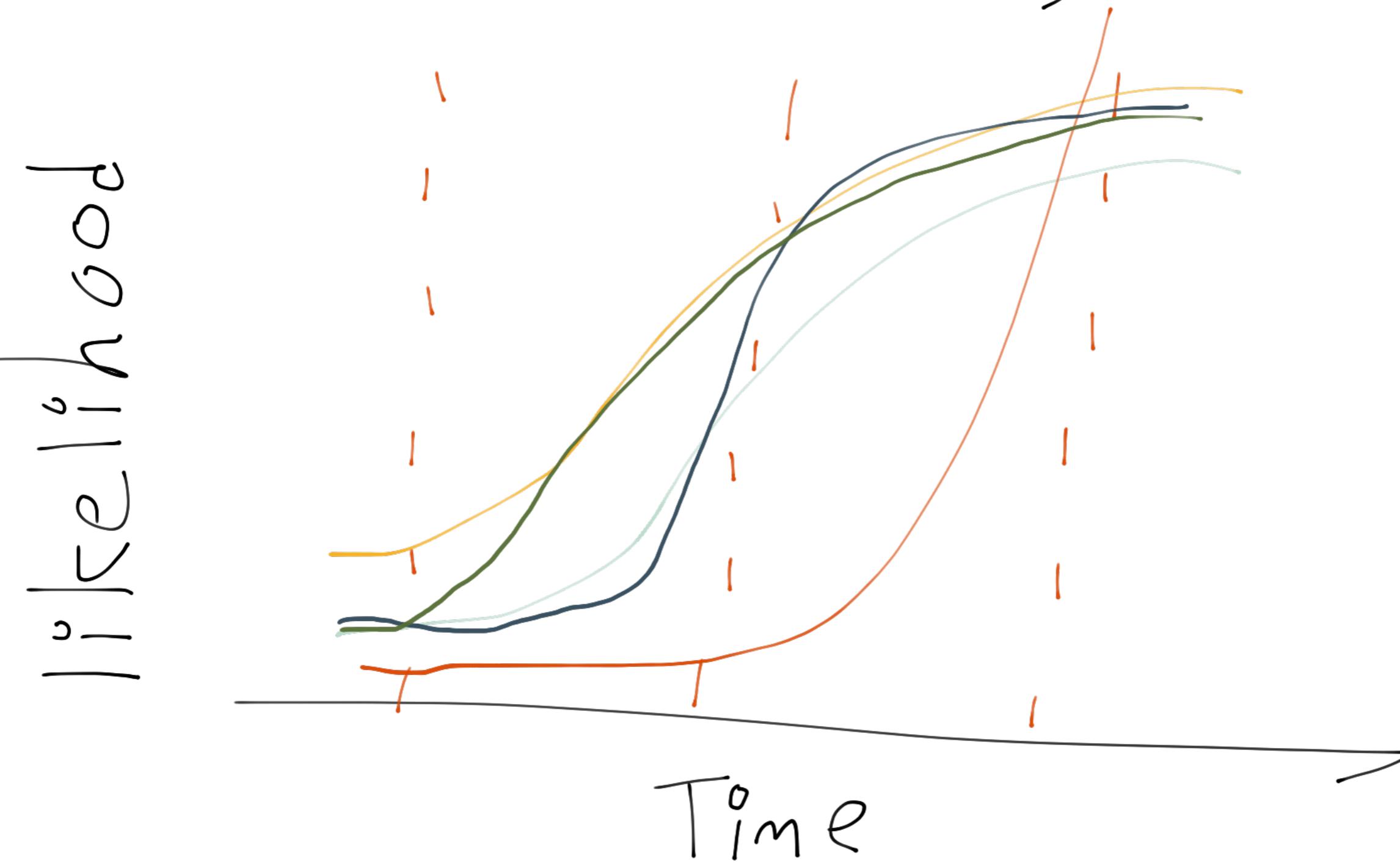
Eliminate

Innovate

Iterate

Collaborate

Risk Management



So... Computers

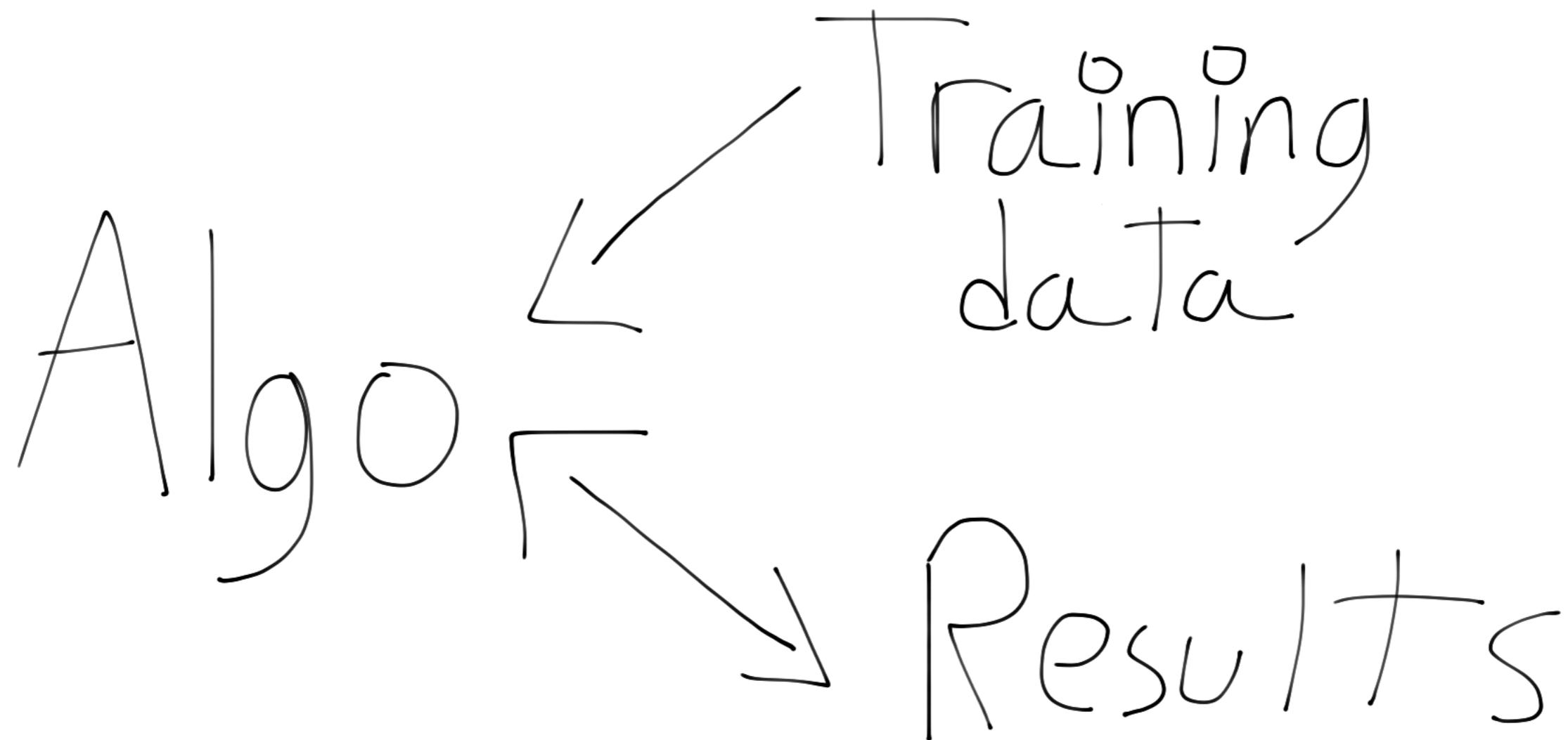
Programming
Themselves²

Machine Learning

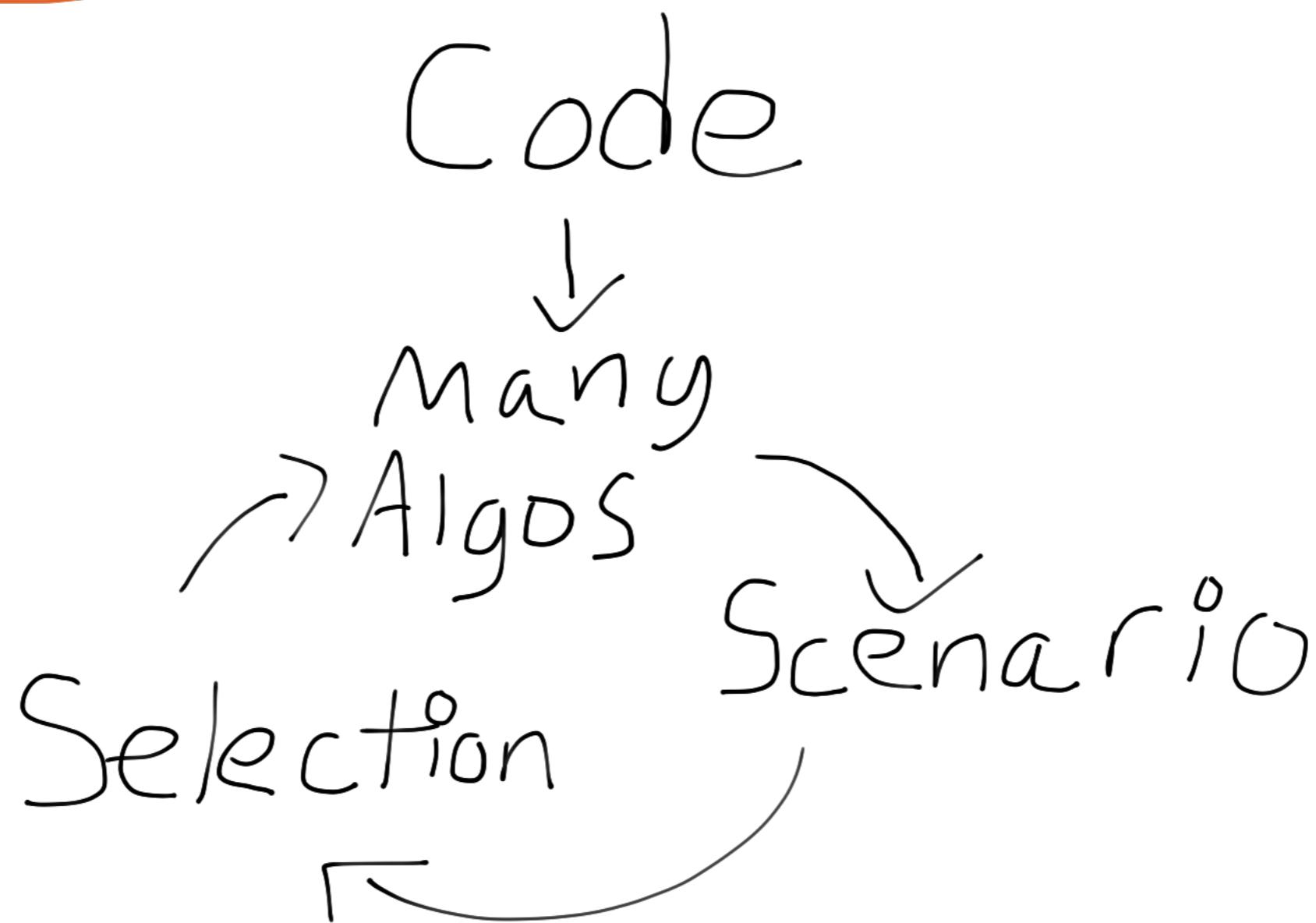
Genetic Programming

Generative Programming

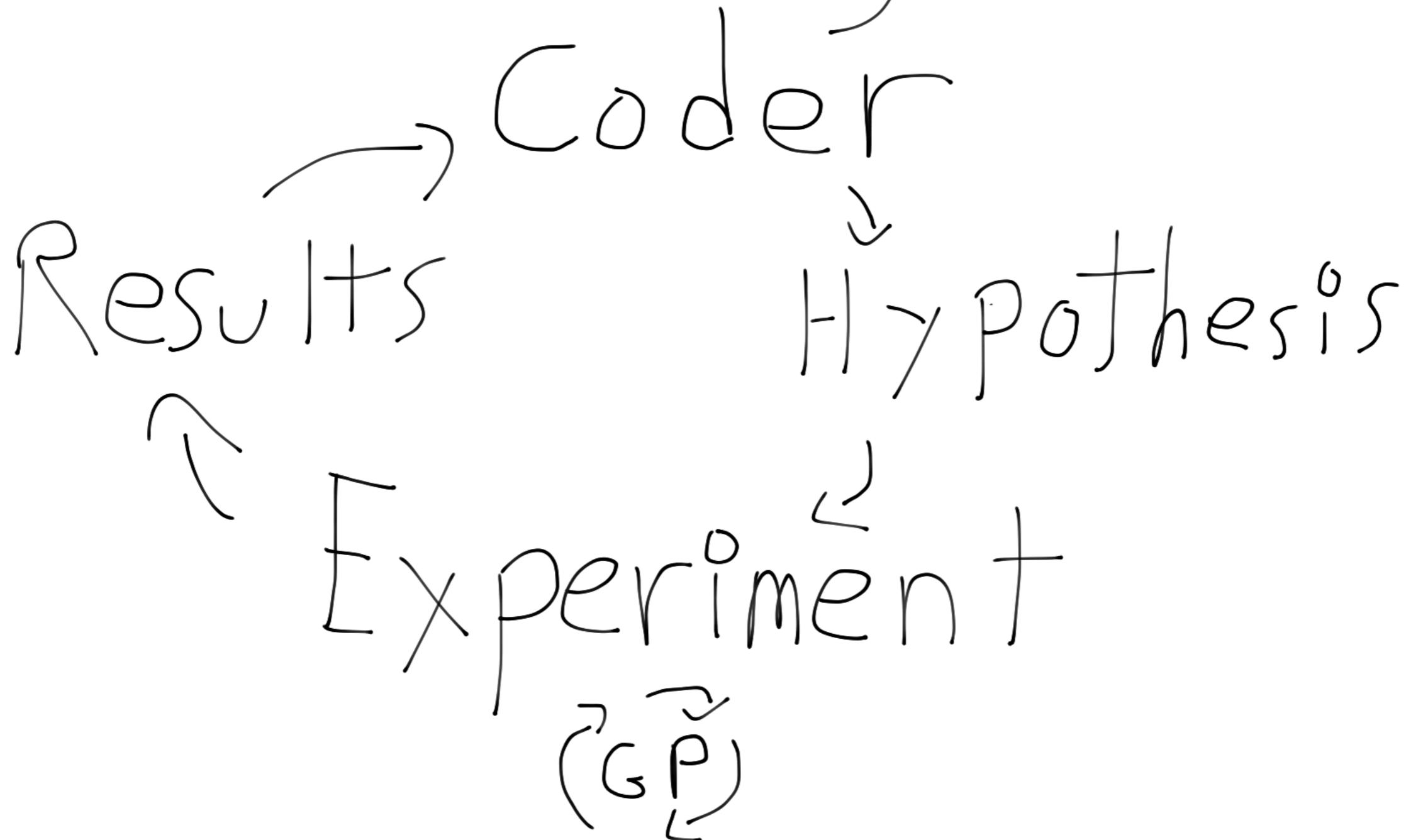
Machine Learning



Genetic Programming



Generative Programming



With The

Difference?

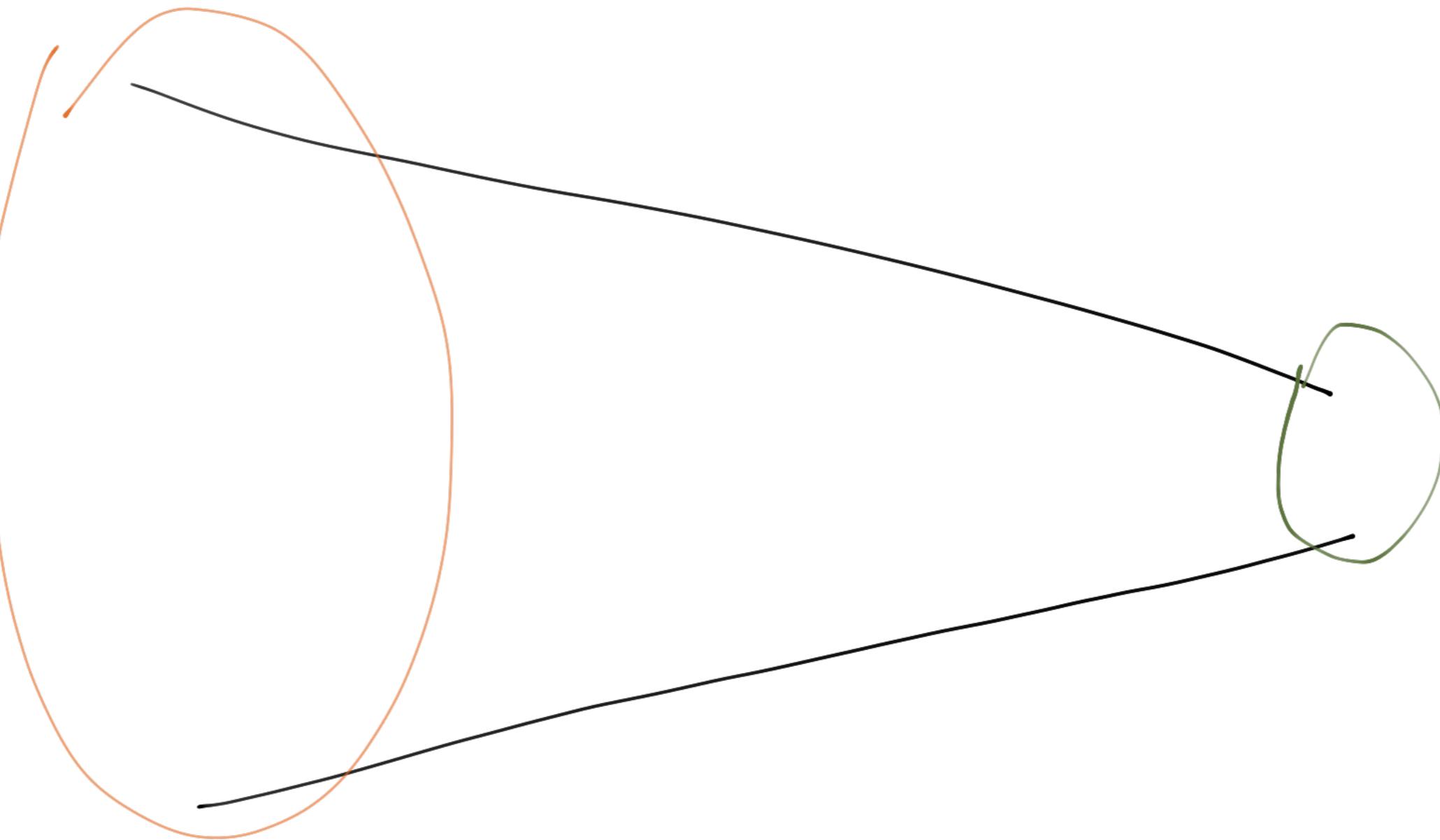
I+
Iterative

Innovative

Collaborative

Seek

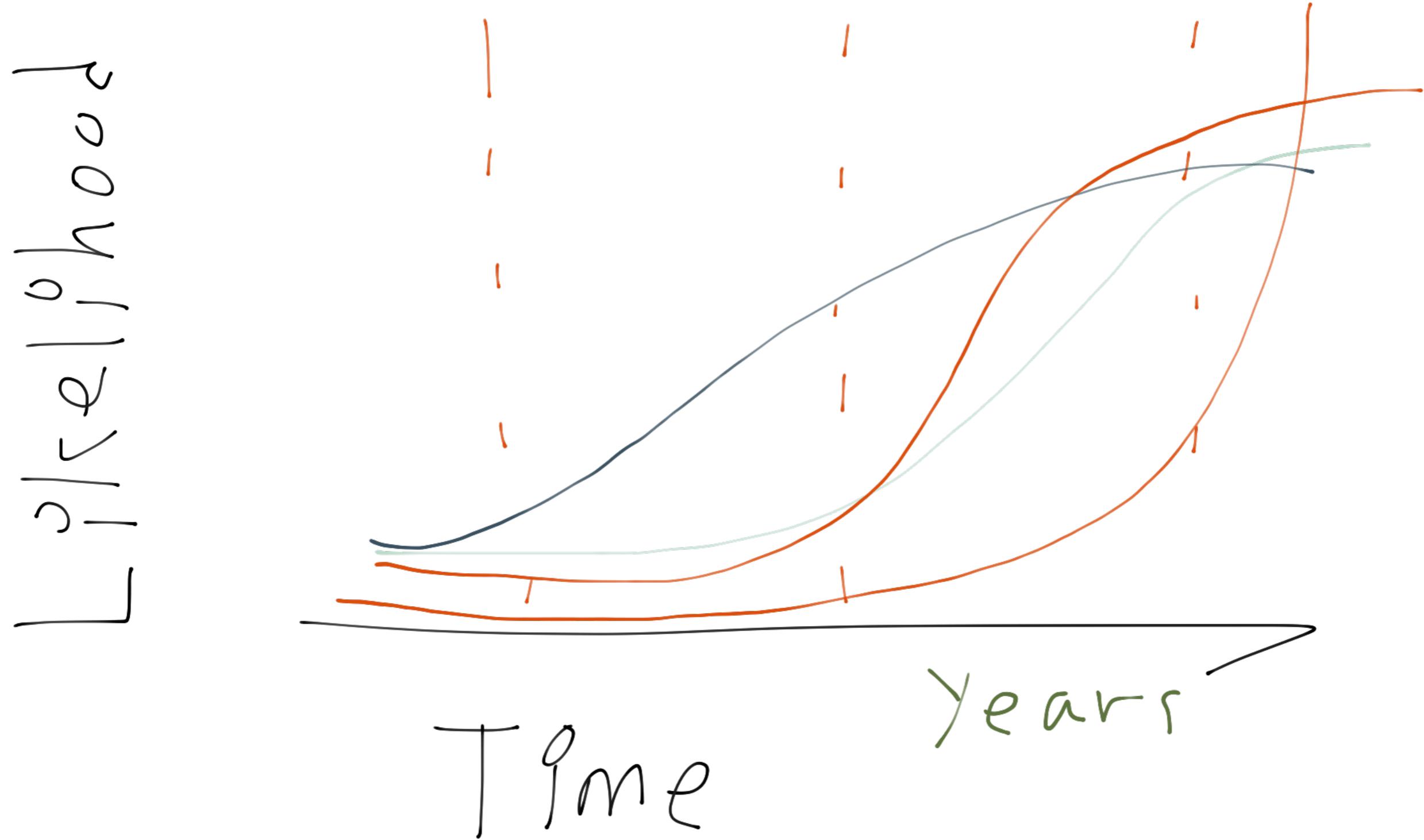
Surprise



???

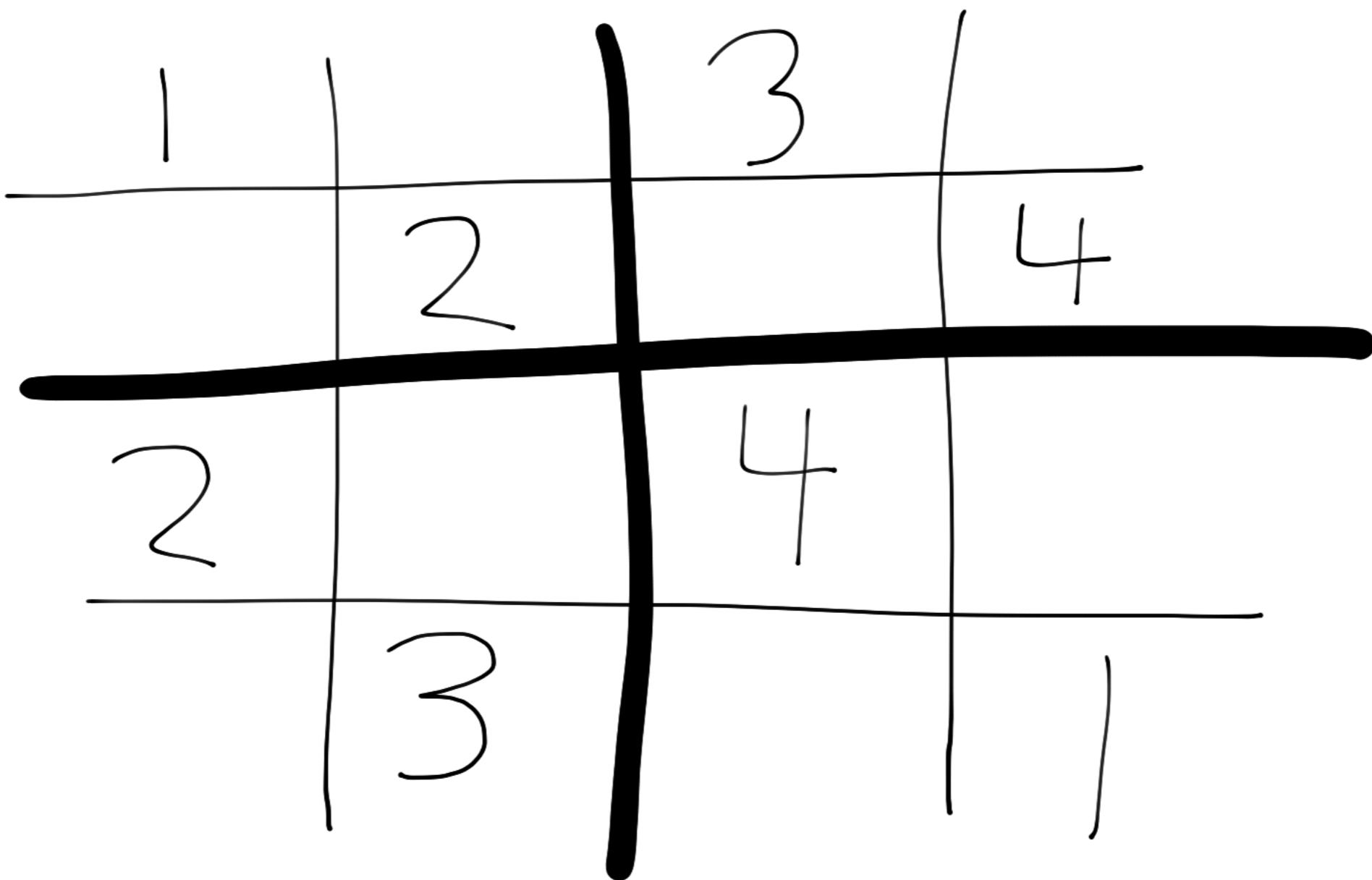
Hunch

Algo



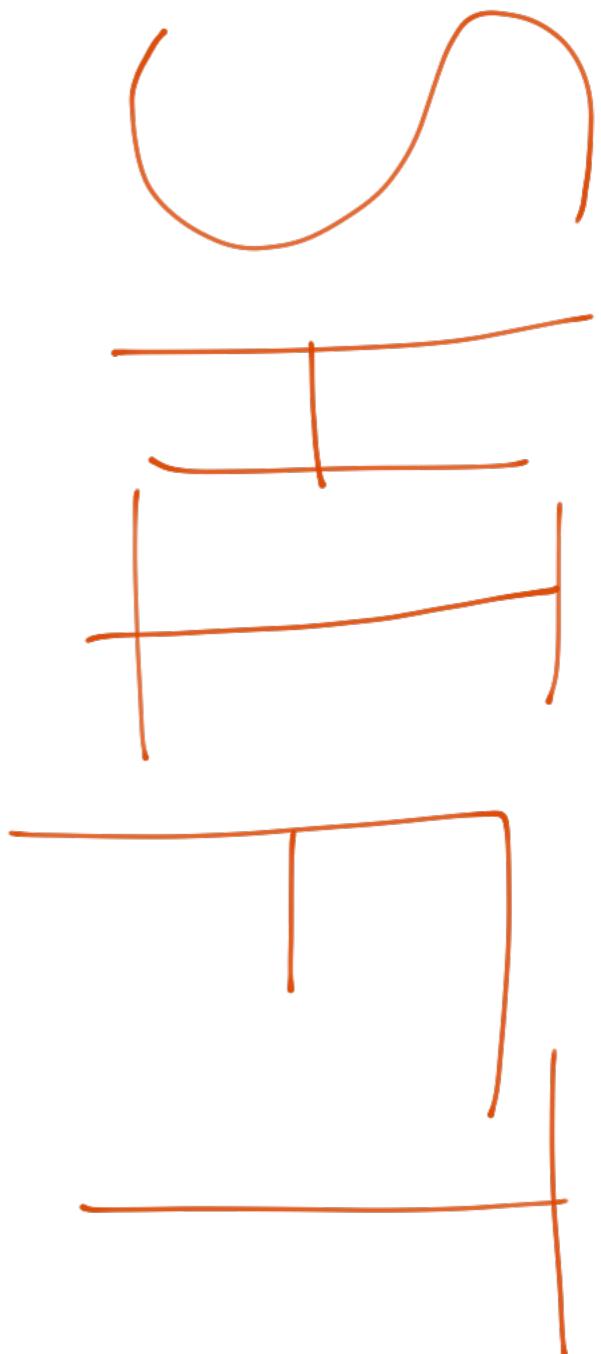
Why
Ruby 2.0

A Case Study



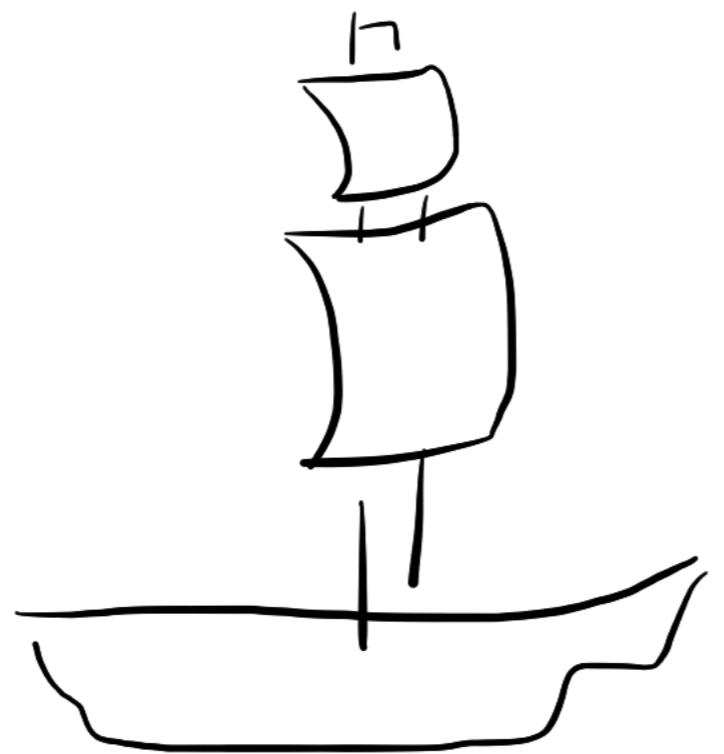
```
def Sudoku(grid)
    1. return if solved
    2. find right answer
        for nextempty cell
        fill it in new-grid
    3. Sudoku (new-grid)
```

up and
left or
clockwise xor

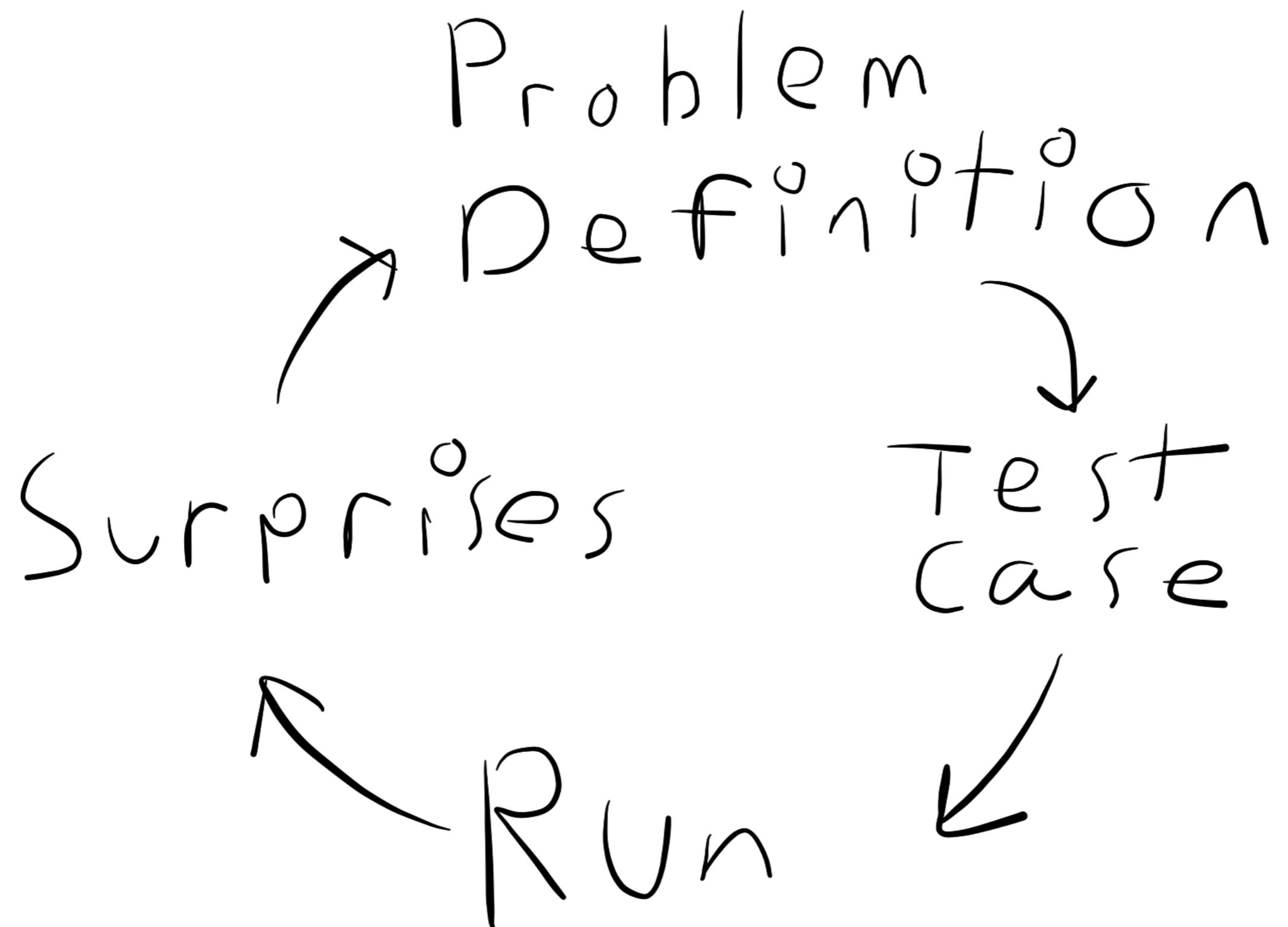


github.com

Z SPENCER



Exploration,
Pseudo Structured



Run

``solution''
generation

Propagate

execute

Evaluate

distance



Evaluate

good

behavior

bad

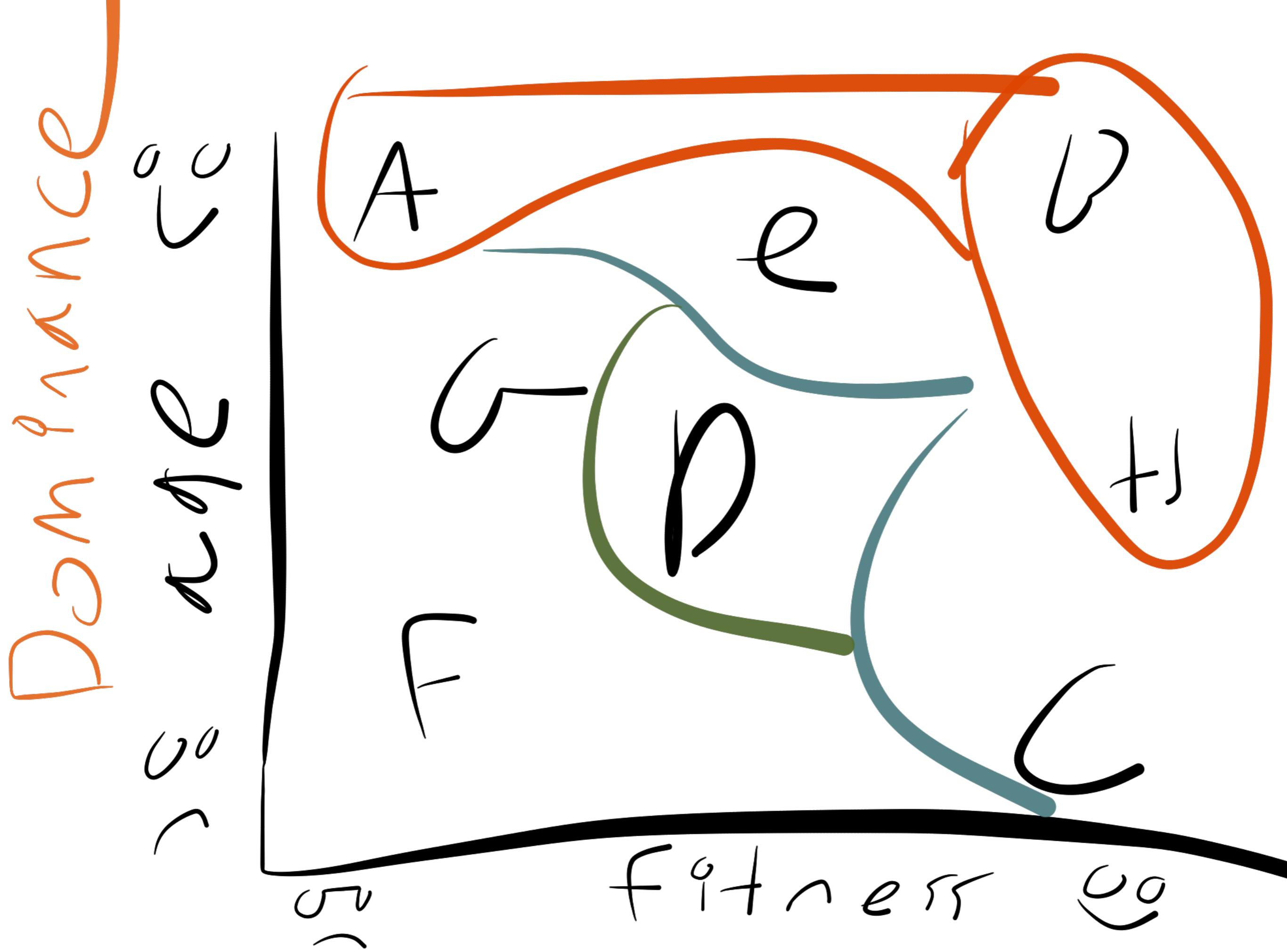
behavior

Breed

Mutate

Propagate

Create



1

A B C D E F G

2

H I J K L M N O

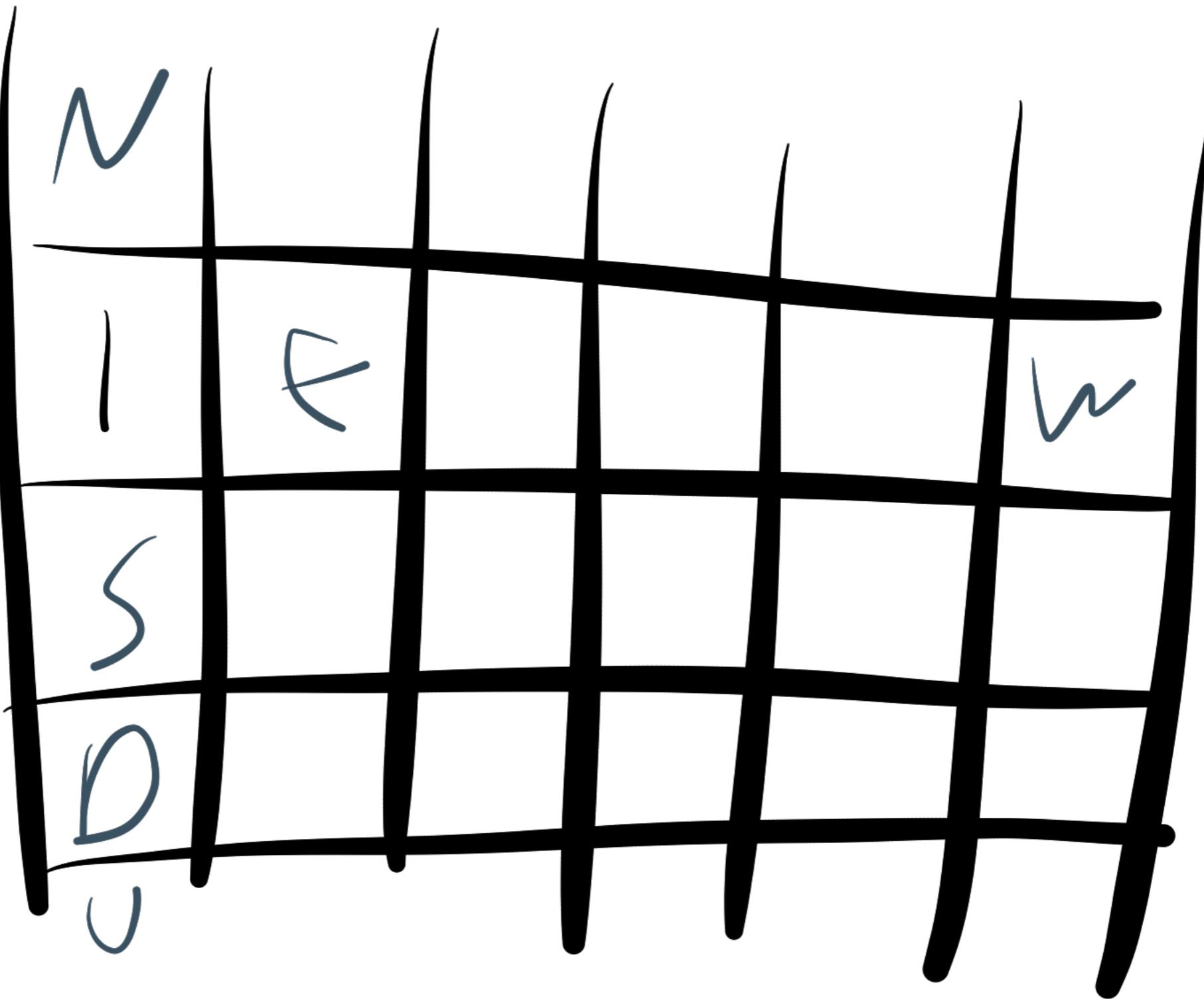
3

P Q S T U V W

4

V X Y Z

Charts for a 1e



1 2 3 4 5 6 7 8 9

1 0 0 1 1 0 0 1 1 0 0

And

g o l l o g o l l / o o l

o o / o o / o / o / o o /

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

1 0 0 1 0 1 0 1 0 1 0 1 0 1 0

OR

0 1 0 1 1 1 0 1 1 1 0 1 0

—

—

1 1 0 1 1 1 0 1 1 1 0 1 1

1 2 3 4 5 6 7 8 9
0 1 0 1 0 1 1 0 1 1

~~Xor~~

0 1 1 1 0 1 1 1 1 0

0 0 0 1 0 1 0 1 0 1

1 2 3 4 5 6 7 8 9
0 1 1 1 0 0 0 1 1 0 1
NOR

0 1 0 1 1 0 1 0 1 1

—
—

1 0 0 0 0 0 0 1 0