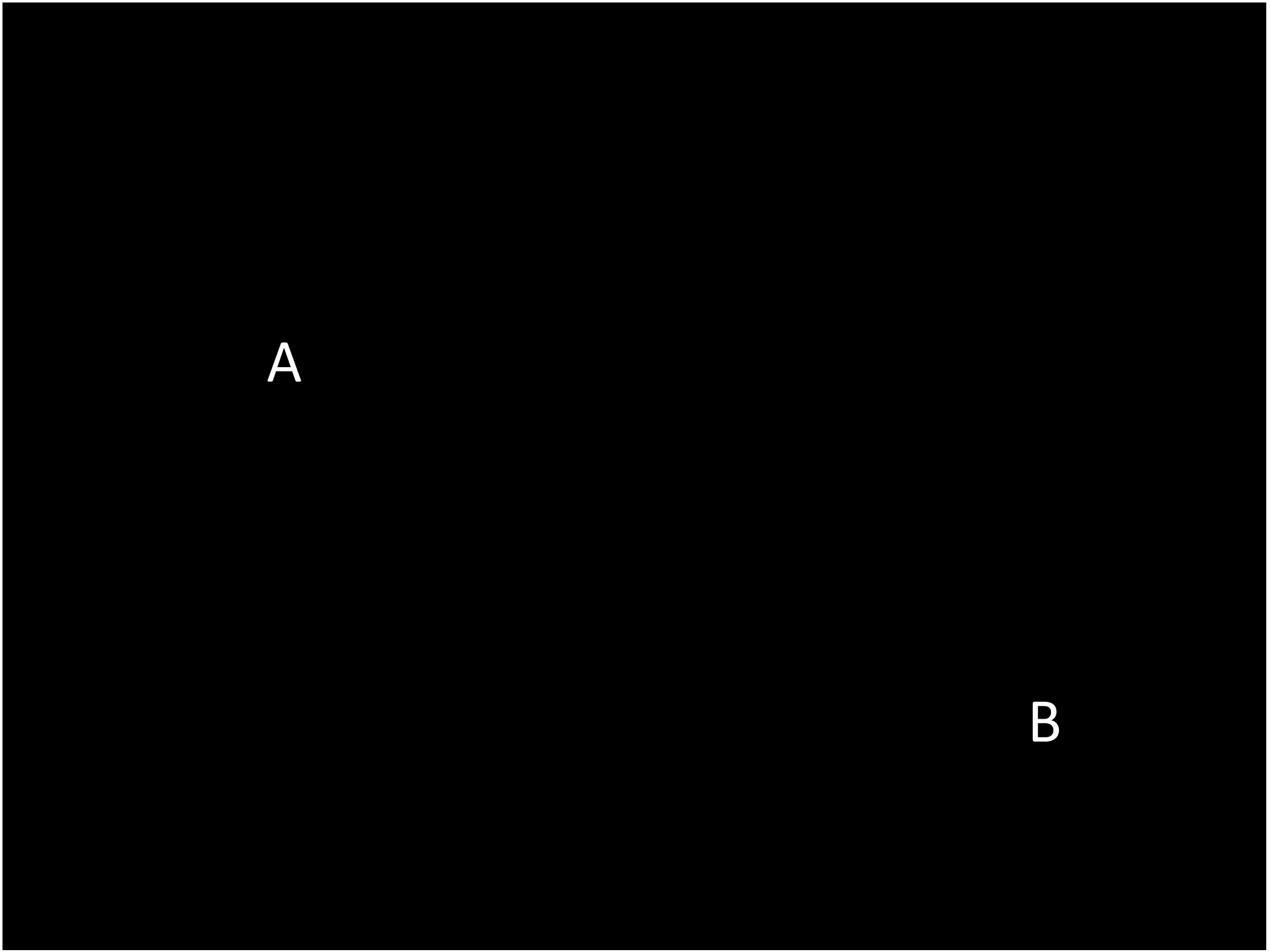
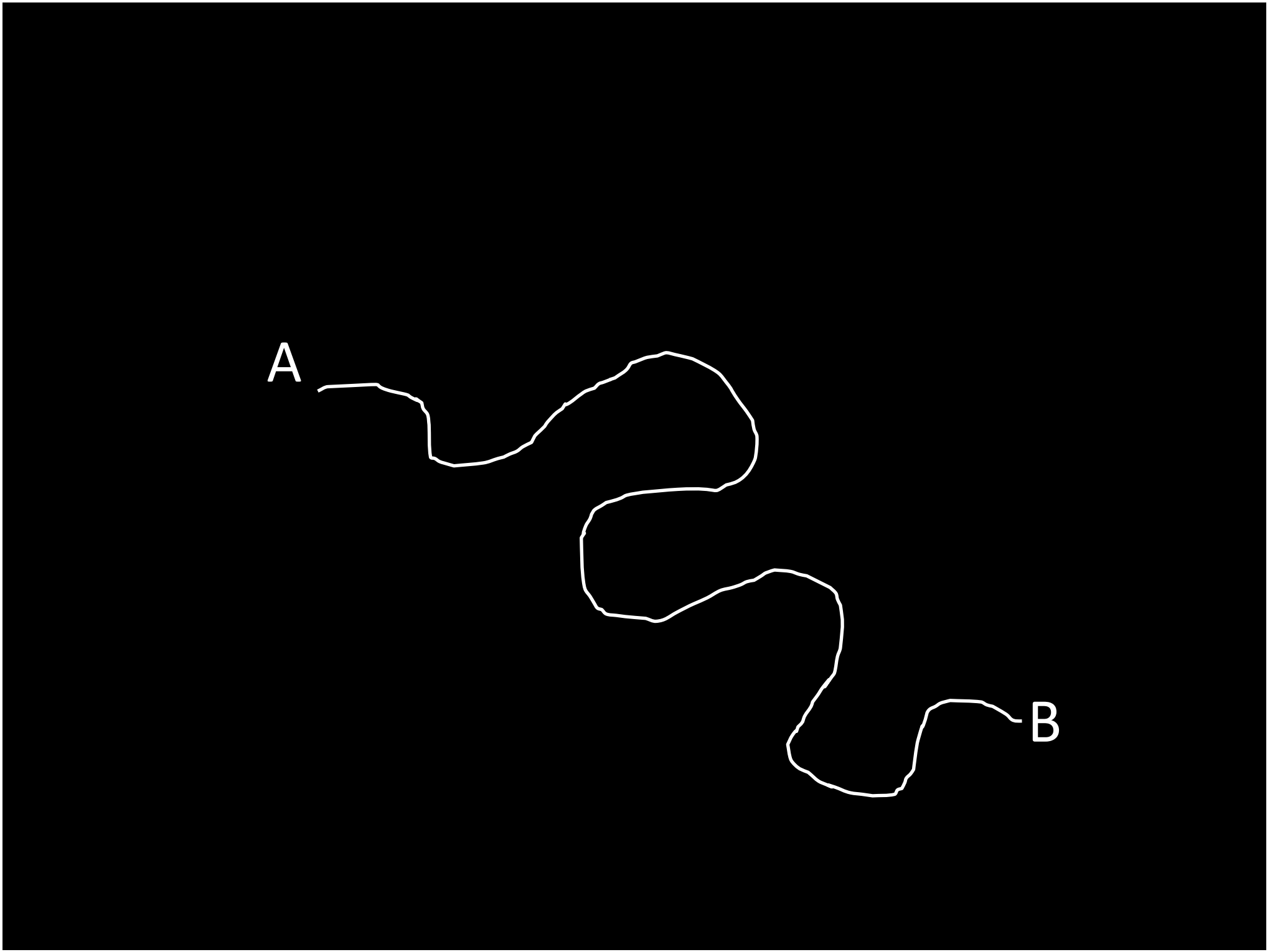
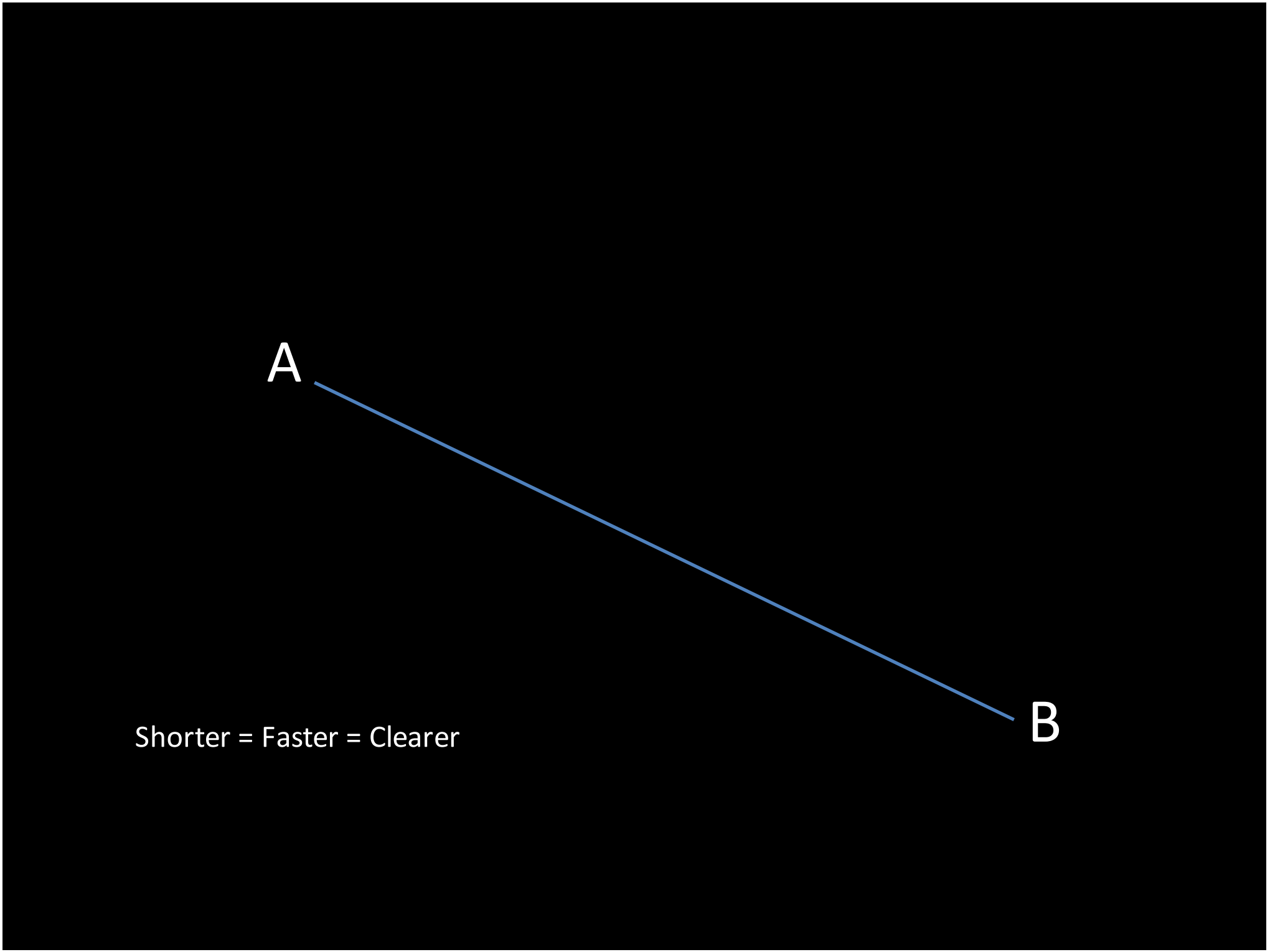
Python in style!


A
B


A
B


A
B
Shorter = Faster = Clearer

Why not aiming for a straight line?

- As long as you code you code…
- It will never be perfectly straight anyway.
- I can copy paste parts later.
- I will make it straight when I am done.

Why a straighter line?

- Make your code understandable and readable by you:
  - Reuse (now or in a year)
  - Debug
  - Avoid errors
  - What if you wanted to go to C?
- Make the code understandable for others:
  - Reviewers
  - Members of your group
  - The whole world

Exercise:
pythoninstyle_exerciseA.py
has some bad code

1. Make groups of 3-4
2. What does it do?
3. Why is it bad?

Summary of exercise

- Very linear
- Redundancy
- Some things should be defined as parameters
- Names of variables are cryptic
- Hard to read
- No comments
- Cryptic output
- Read from within the script

Structure your code

- *A good code is often read from the end of the file.*
- *Avoid redundancy!*
- Structure
  - Import modules at the top
  - Parameters
  - Functions
  - Main code

Aim for functional style

- It is very hard to see B in linear code; try to have higher order
- functions are great
- List comprehensions can be enough!

pythoninstyle_ExerciseB.py

Do It individually!

Comments and docstrings

Block comment:

- Applies to all the code that follows it.

'''Docstrings'''

- modules, functions, classes.
- can be multiline.

Same line comment, can be very redundant

Pseudocode!

- Structure is hard, if you go straight in the writing your code will be more likely to be very linear and maybe even get confused.
- See pseudocode as a sort of “to do” list!

Pseudocode

- Pseudocode help structure a complex task.
- It does not have to follow any standard.
- You can gradually fill it in with real code!

Initialize total to zero

Initialize counter to zero

Input the first grade

while reading grades:

    add this grade into the running total
    add one to the grade counter

set the average to the total divided by the counter
print the average