goto;

GOTO
Copenhagen 2023

#GOTOcph

Reading Code

GOTO Copenhagen - Oct 3, 2023

https://maritvandijk.com/

Reading Code

Introduction

- We spend more time **reading** code than **writing** code

Reading Code

Introduction

We read code when:

- adding or changing functionality
- fixing bugs
- understanding a new code base
- doing code reviews
- learning new things
- etc.

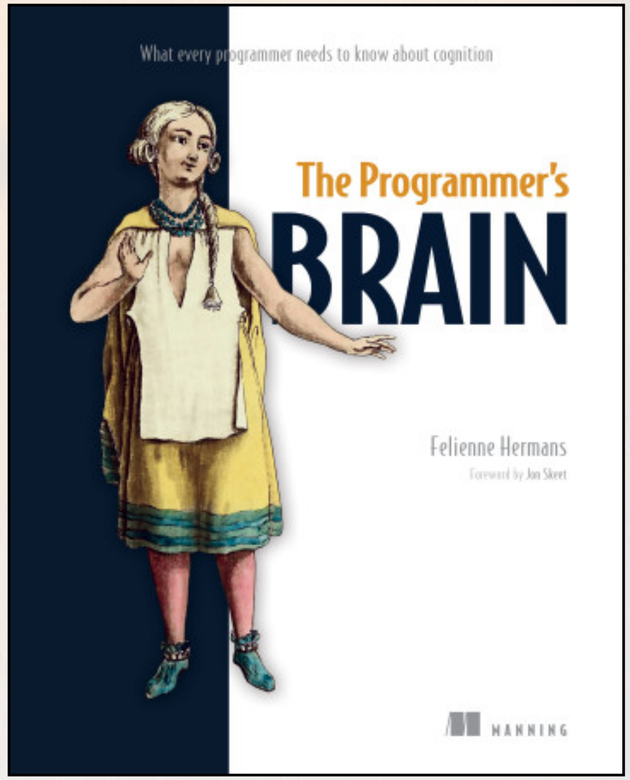
Reading Code

Introduction

"developers on average spend **as much as 58% of their time** comprehending existing source code" -

-

Felienne Hermans,
The Programmer's Brain



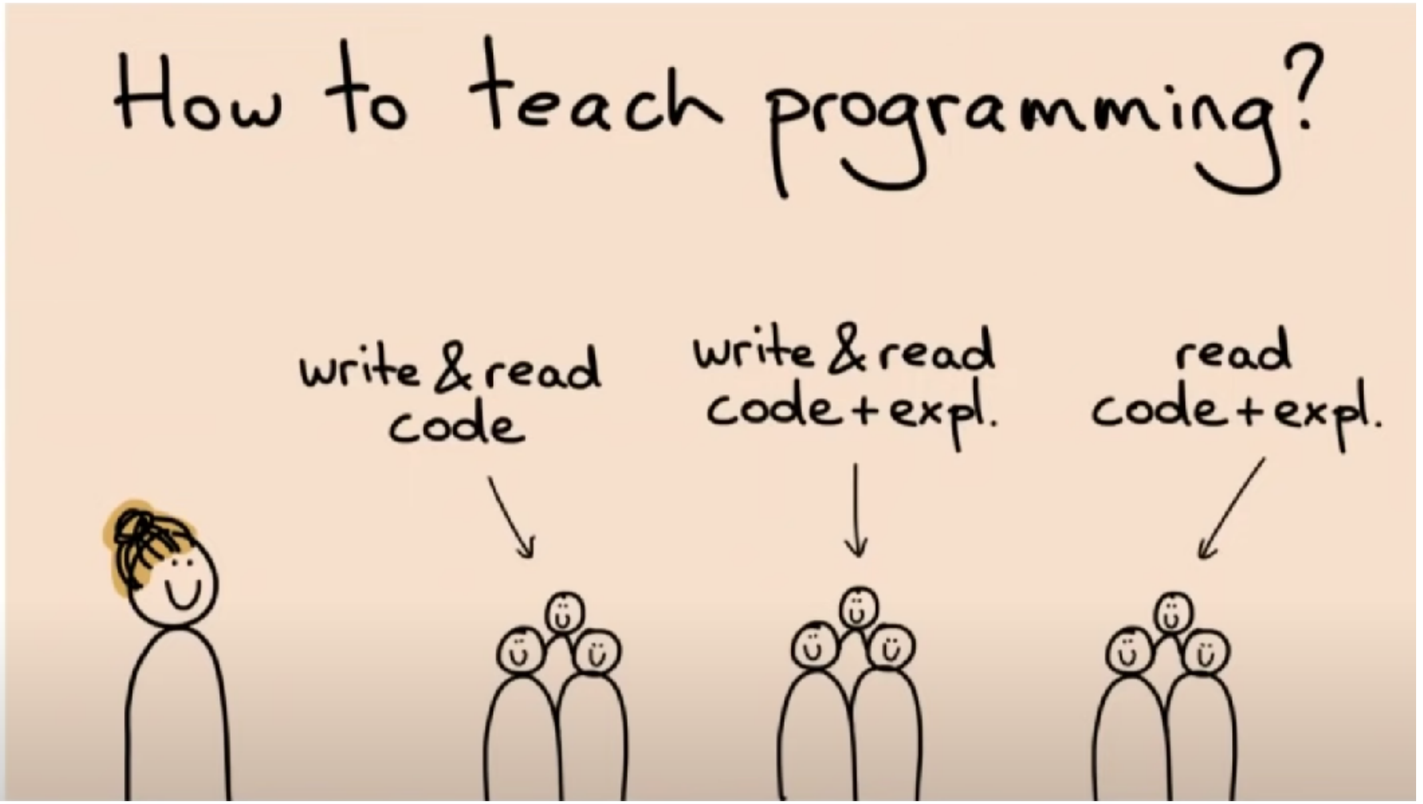
Reading Code

Introduction

- We spend more time **reading** code than **writing** code
- But we don't **practice** reading code **explicitly** (much)

Reading Code

Introduction

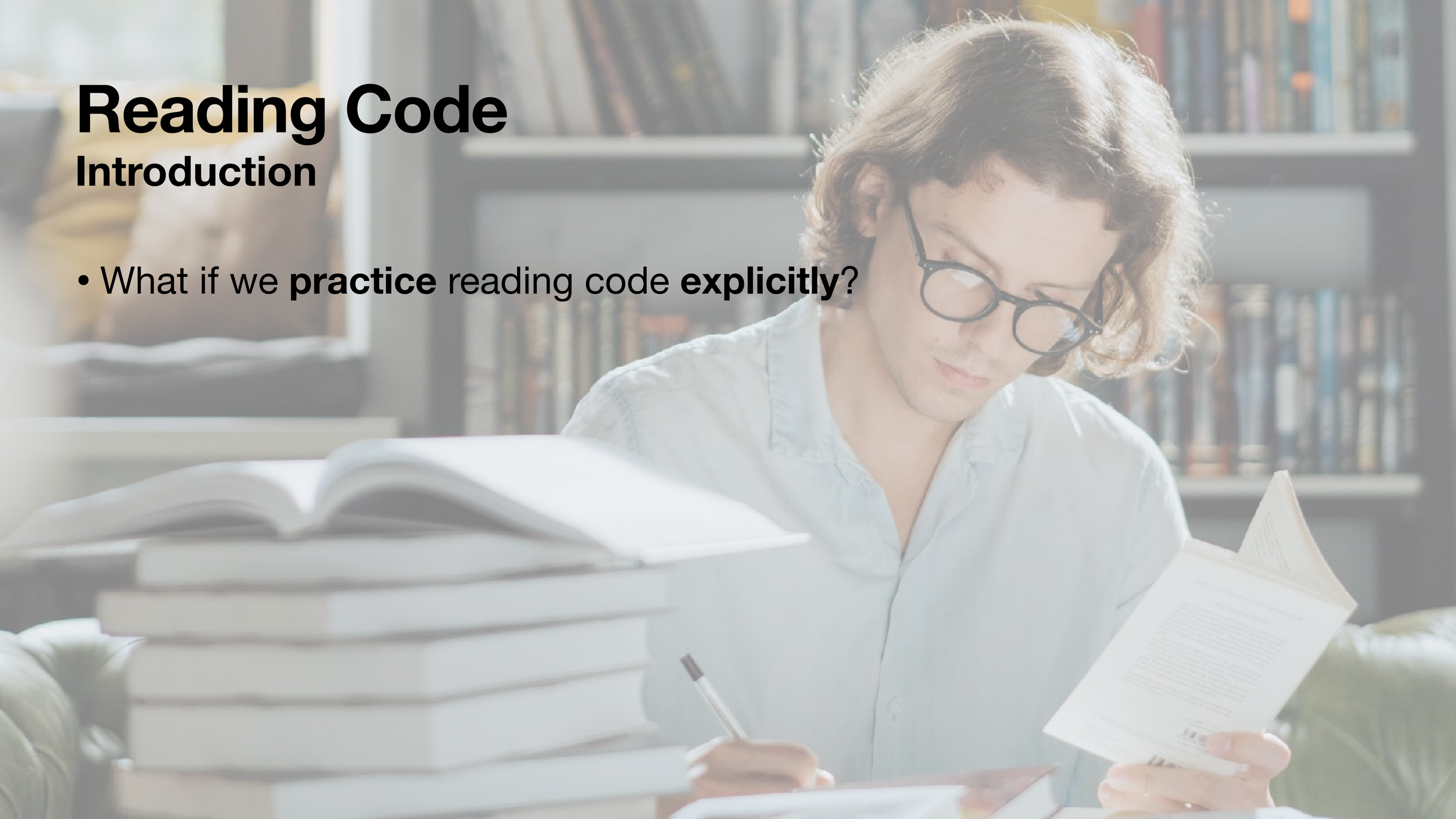


"How to teach programming (and other things)?" by Felienne Hermans

https://www.youtube.com/watch?v=g1ib43q3uXQ

Reading Code
Introduction

- What if we **practice** reading code **explicitly**?



Reading Code

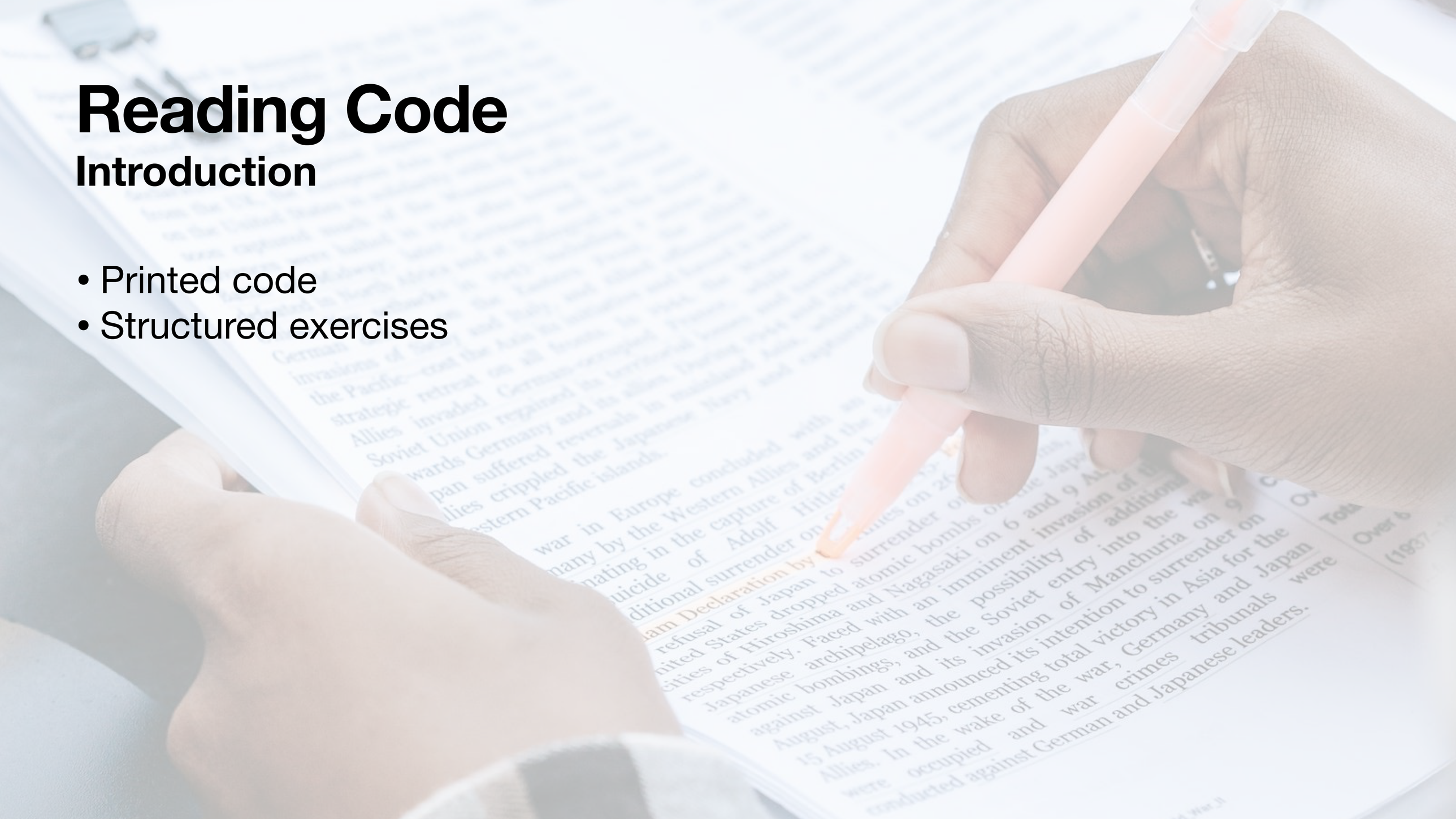
Introduction

- **Code Reading Club**
  https://codereading.club/

Reading Code

Introduction

- Printed code
- Structured exercises



Reading Code

Introduction

- Joined a code reading club
- So many insights!

Reading Code
Introduction

- But what about the IDE?

Reading Code

Introduction

- Let's look at various strategies for different tasks

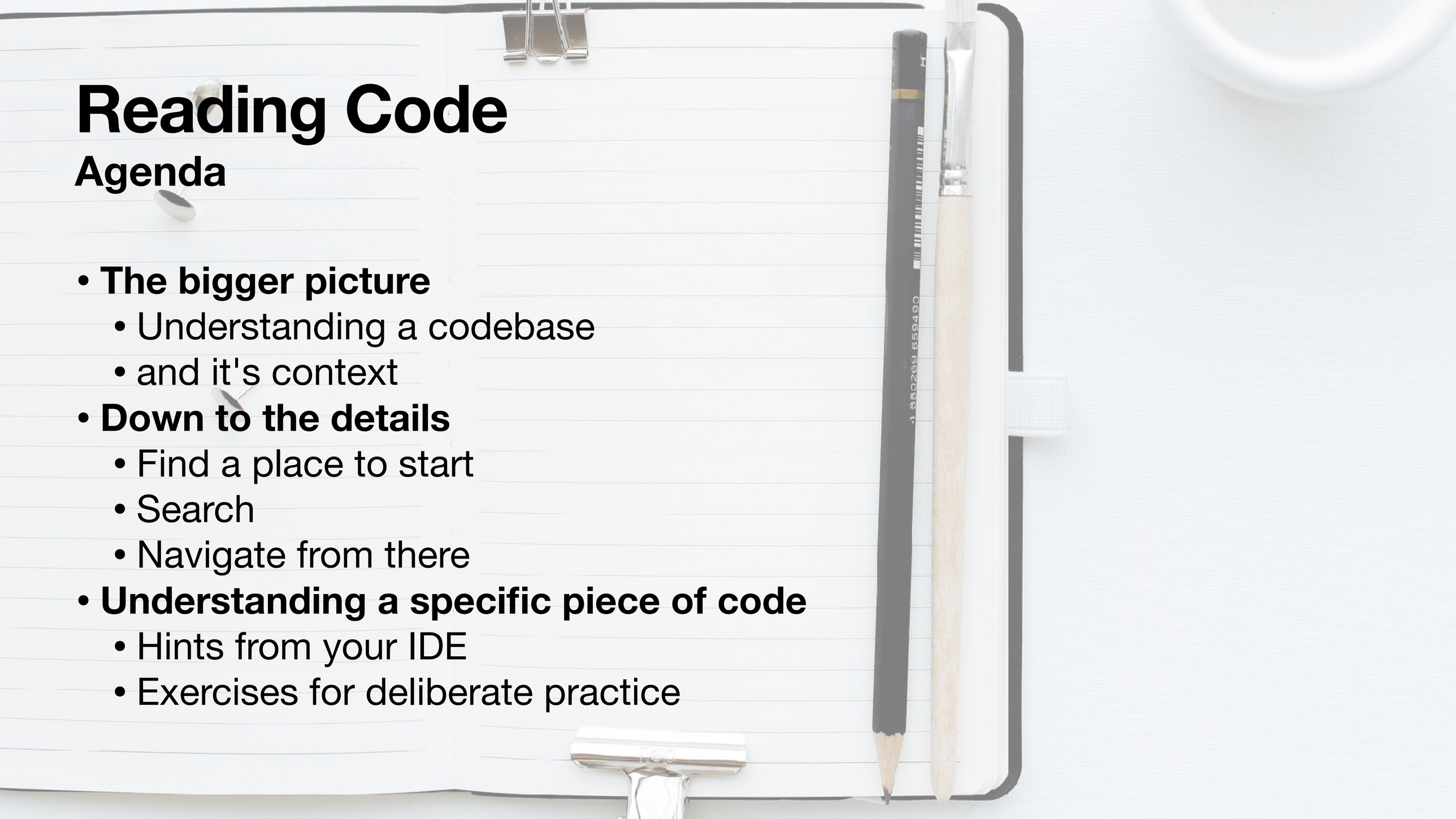
Reading Code

Introduction

Reading Code

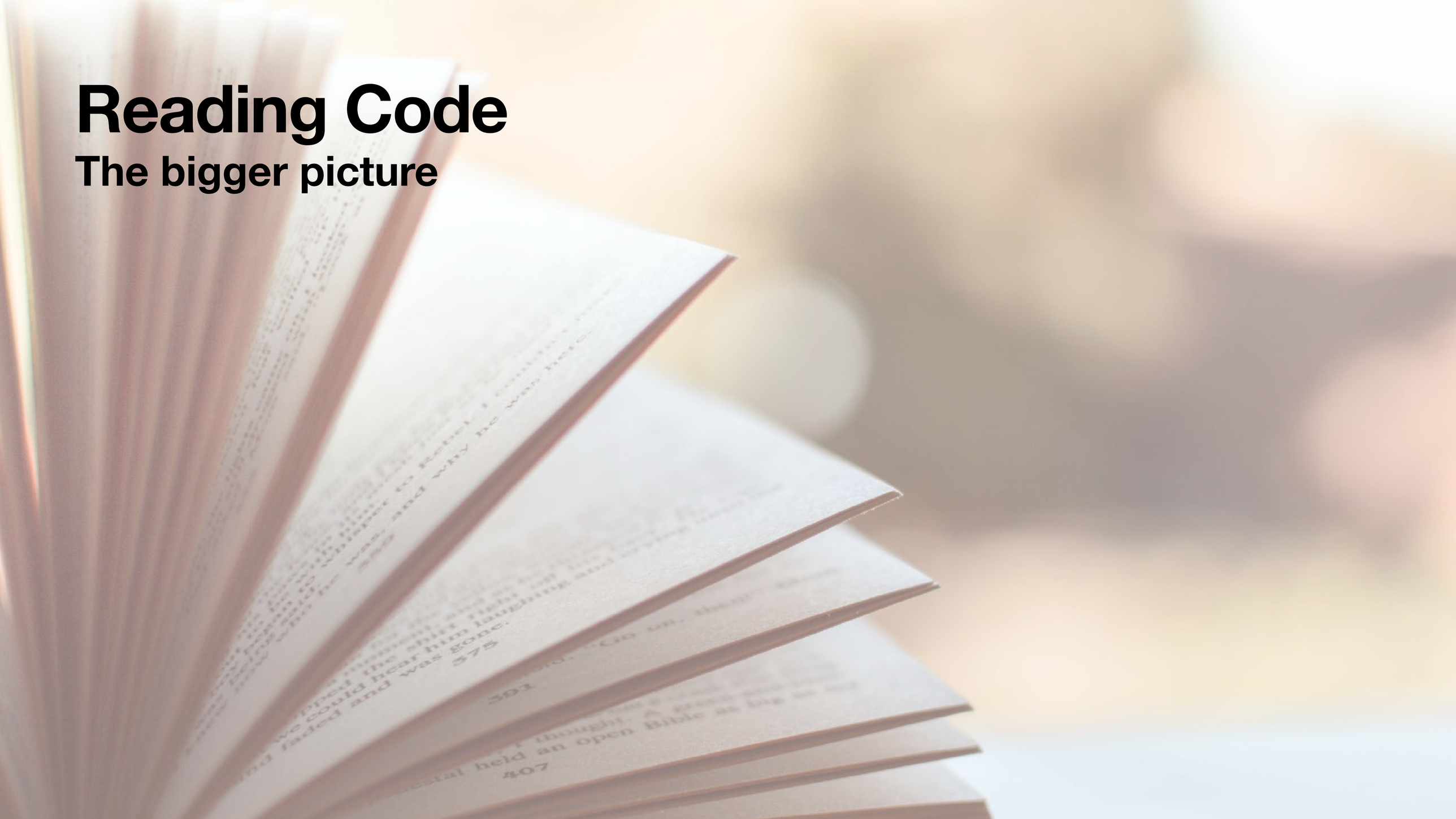
Agenda

- **The bigger picture**
  - Understanding a codebase
  - and it's context
- **Down to the details**
  - Find a place to start
  - Search
  - Navigate from there
- **Understanding a specific piece of code**
  - Hints from your IDE
  - Exercises for deliberate practice



Reading Code

The bigger picture



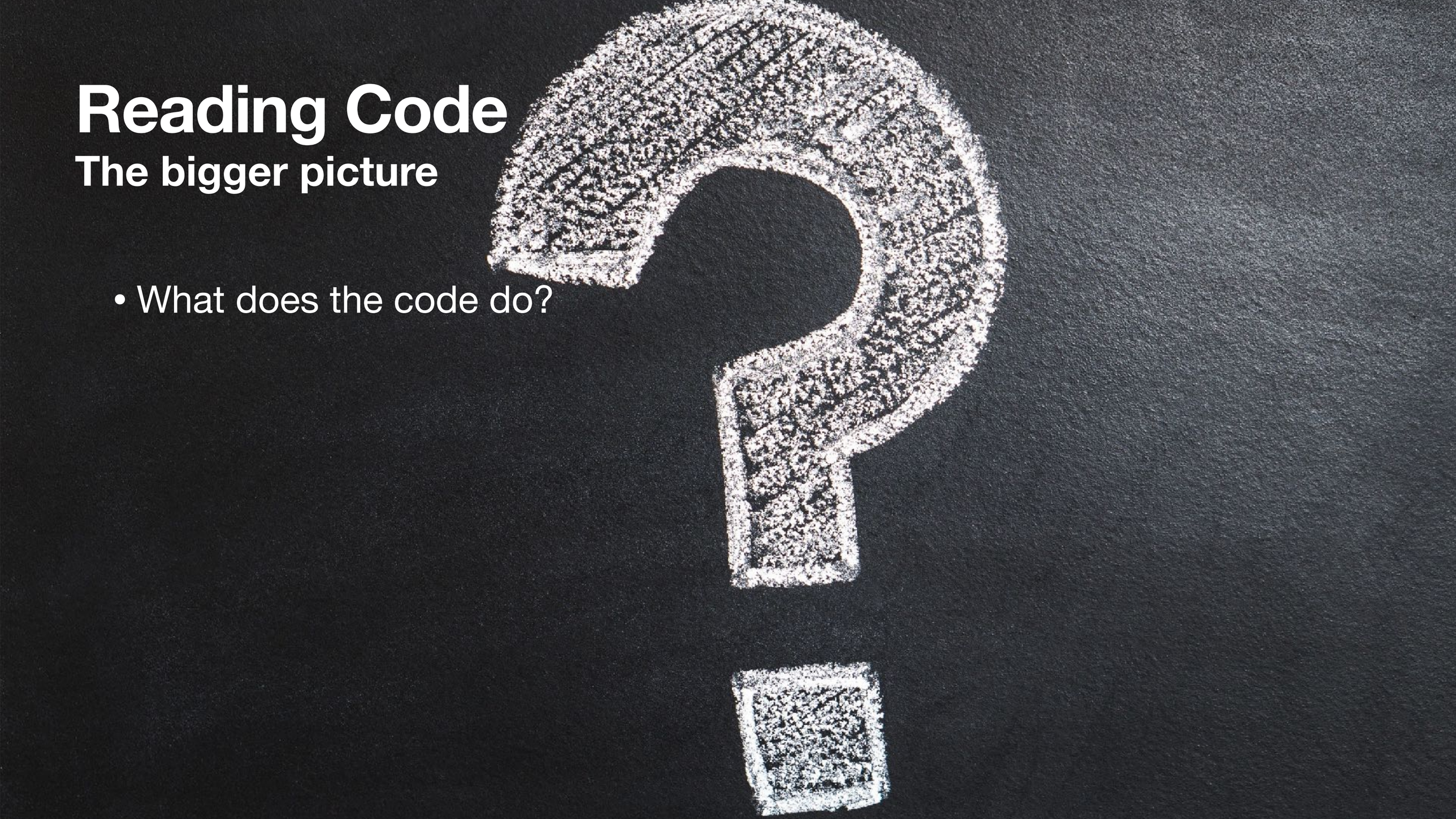
Reading Code

The bigger picture

- Onboarding to a new team / code base

Reading Code

The bigger picture



- What does the code do?

Reading Code

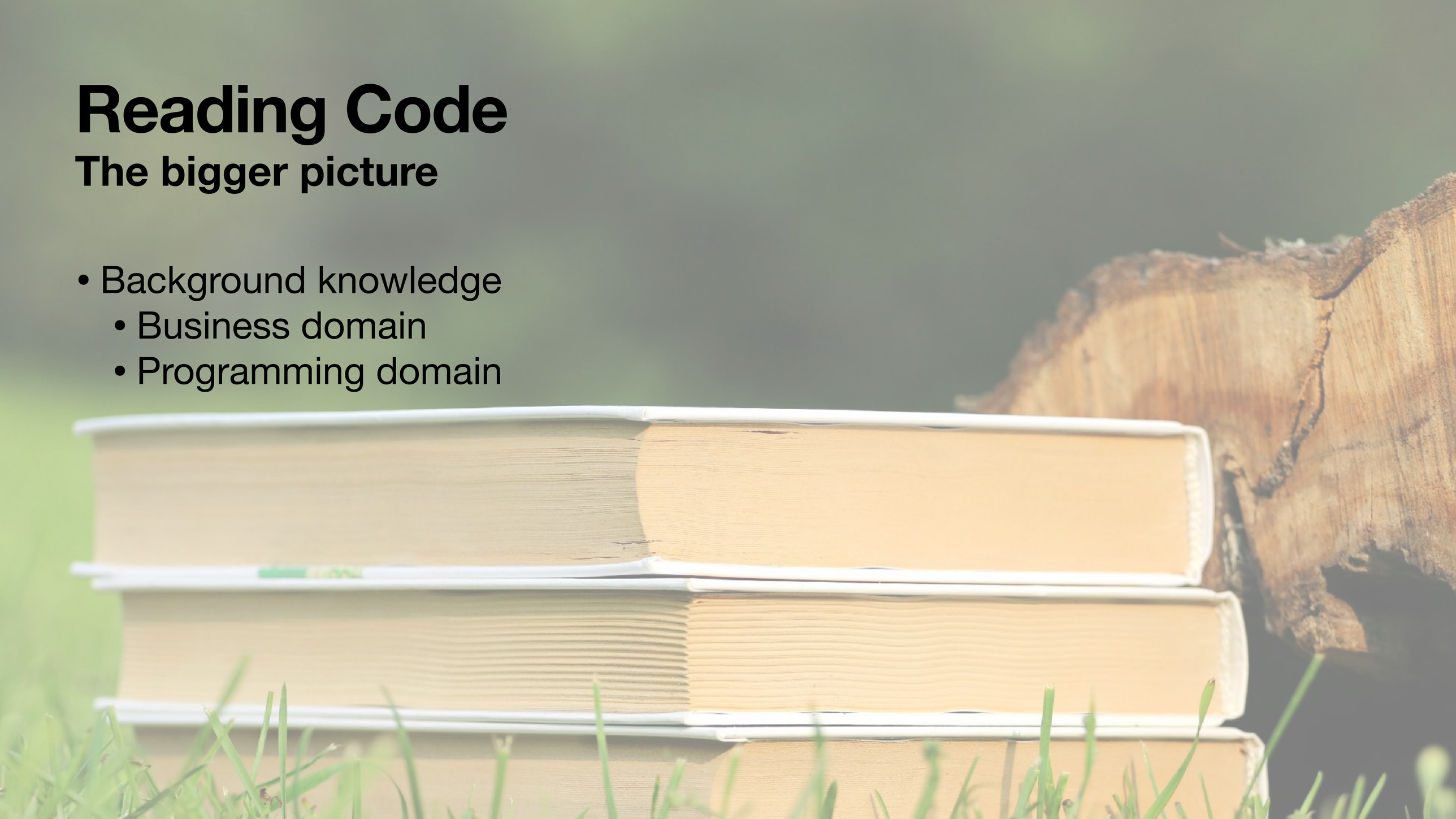
The bigger picture

- What is the context?

Reading Code

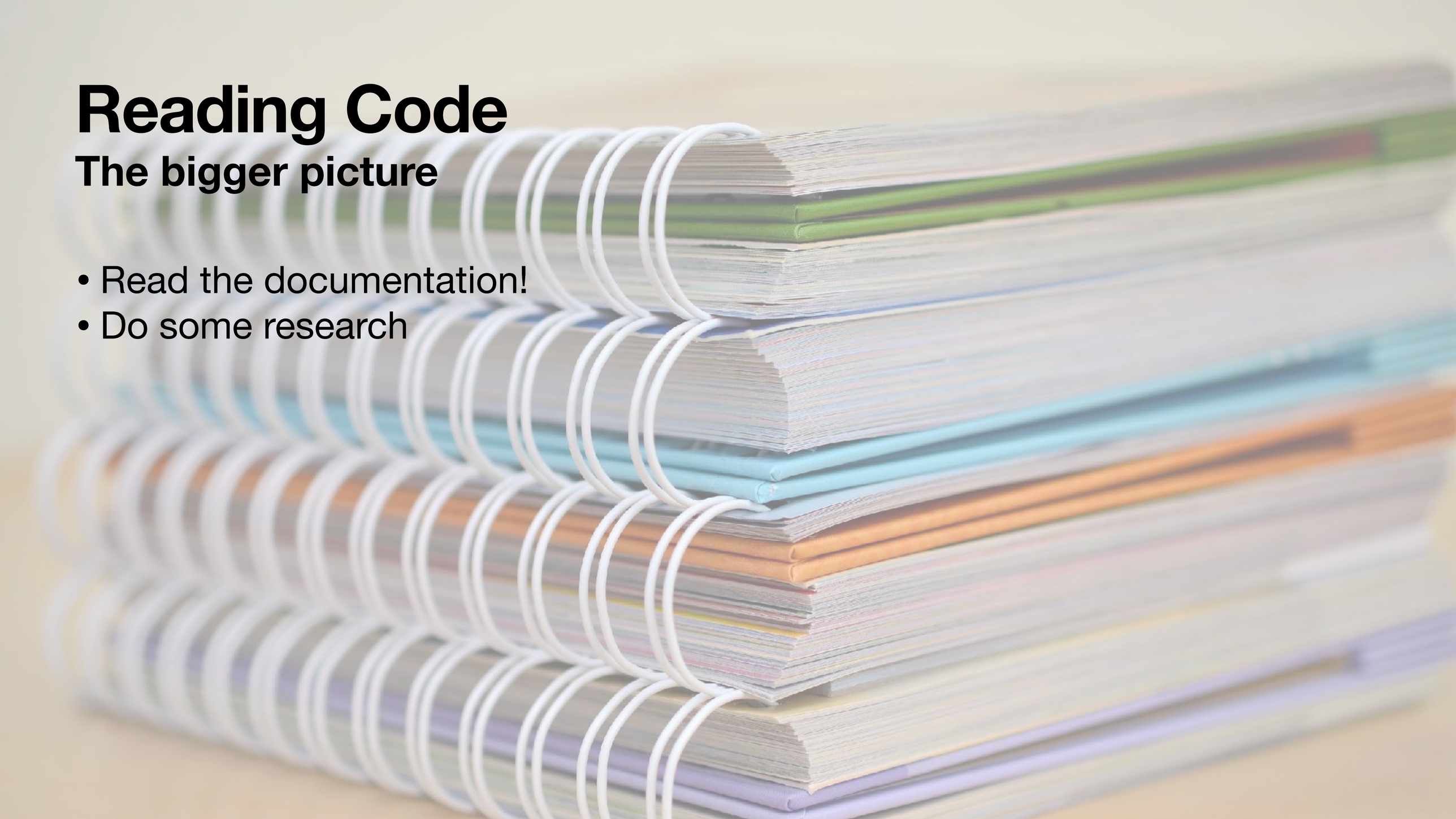
The bigger picture

- Background knowledge
  - Business domain
  - Programming domain



Reading Code

The bigger picture



- Read the documentation!
- Do some research

Reading Code

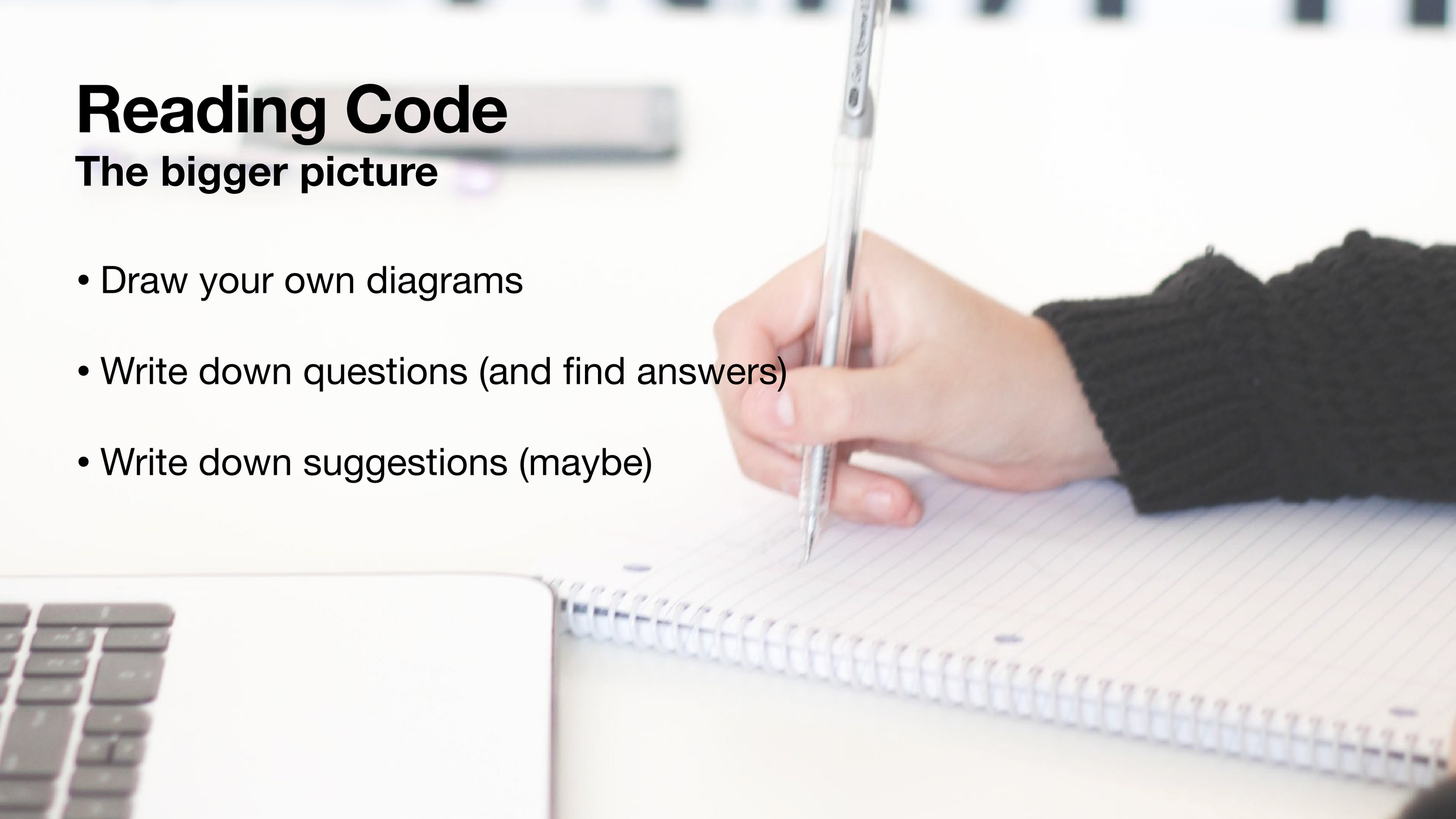
The bigger picture

- Take notes!

Reading Code

The bigger picture

- Draw your own diagrams
- Write down questions (and find answers)
- Write down suggestions (maybe)



Reading Code

The bigger picture

Strategies:

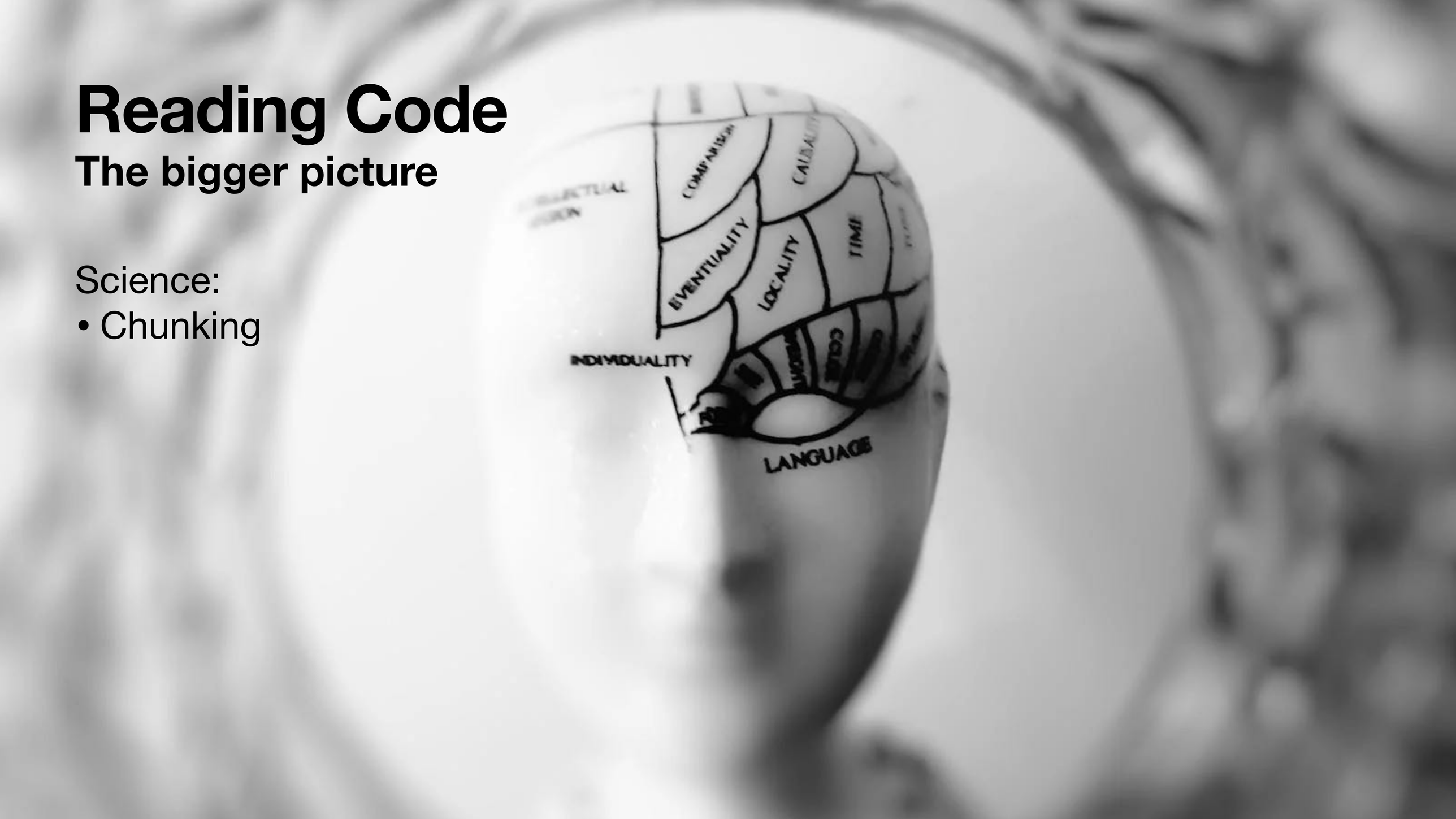
- Identify components
- Identify relationships / dependencies
- Identify concepts

Reading Code

The bigger picture

Science:

- Chunking



Reading Code

The bigger picture

But first:

- Check out the code
- See if you can build it

Demo time:
The big picture

README
Project tool window
Dependency Matrix
Diagrams

Reading Code

Down to the details

Reading Code

Down to the details

- Find a starting point

Reading Code

Down to the details

- Search

Reading Code

Down to the details

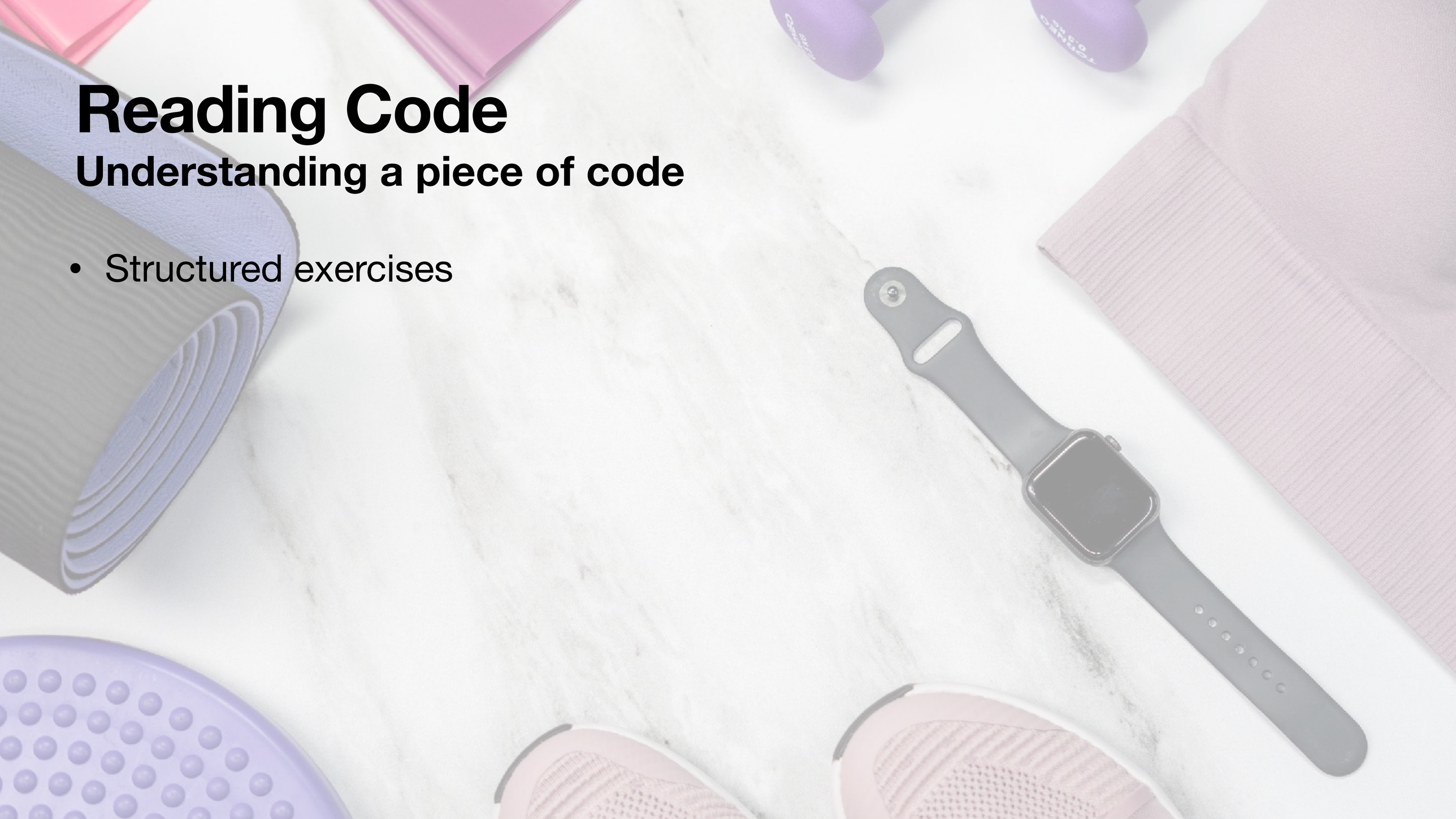
- Navigate

Demo time:
Down to the details

Find a starting point
Search
Navigate

Reading Code

Understanding a piece of code



Reading Code

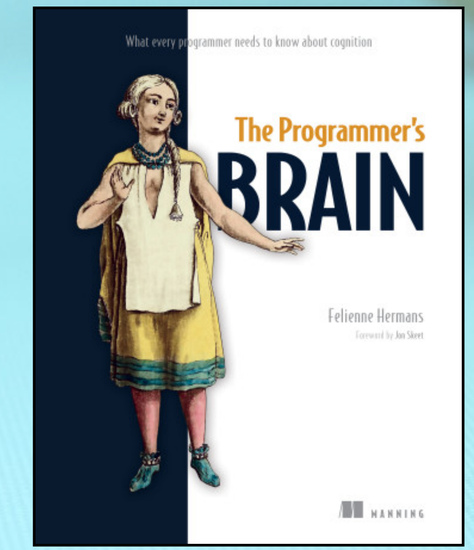
Understanding a piece of code

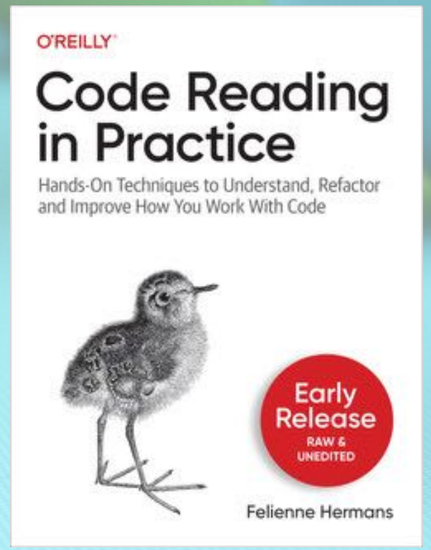
- Structured exercises

Reading Code

Understanding a piece of code

- Structured exercises
  - Code Reading Club Resources:
  - https://github.com/CodeReadingClubs/Resources
  - The Programmer's Brain - Felienne Hermans
  - Code Reading in Practice - Felienne Hermans & Gien Verschatse

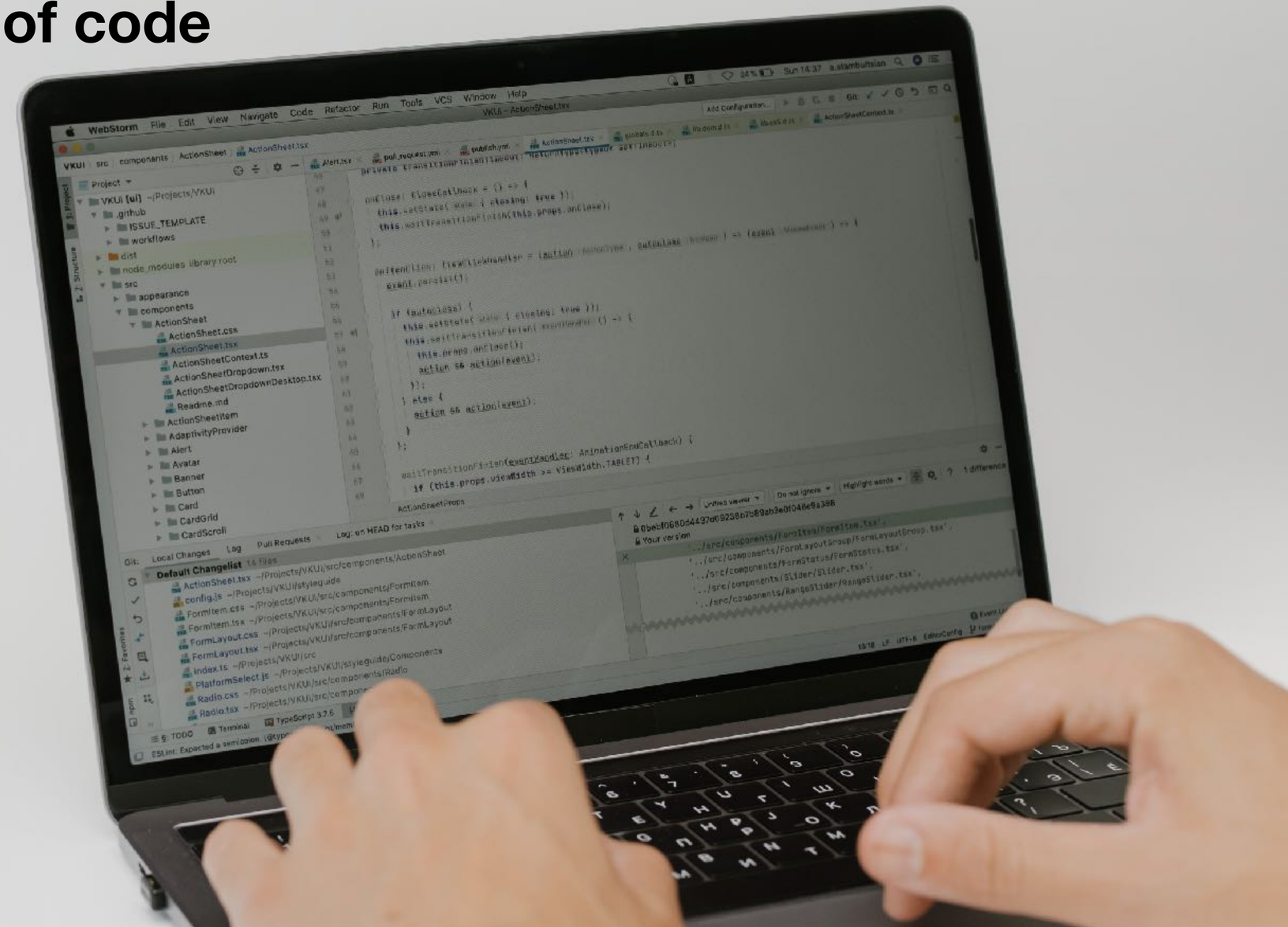




Reading Code

Understanding a piece of code

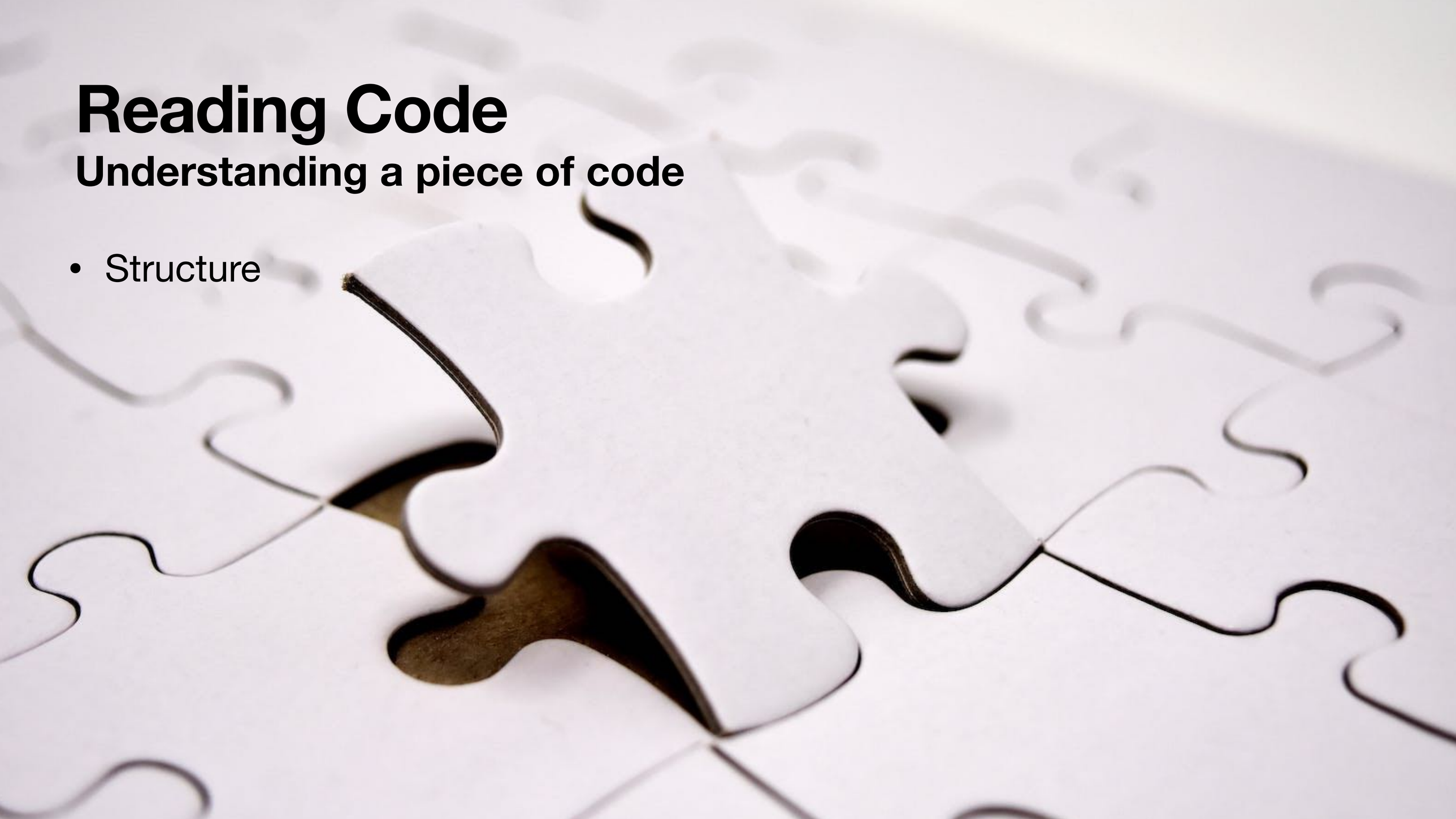
- Syntax



Reading Code

Understanding a piece of code

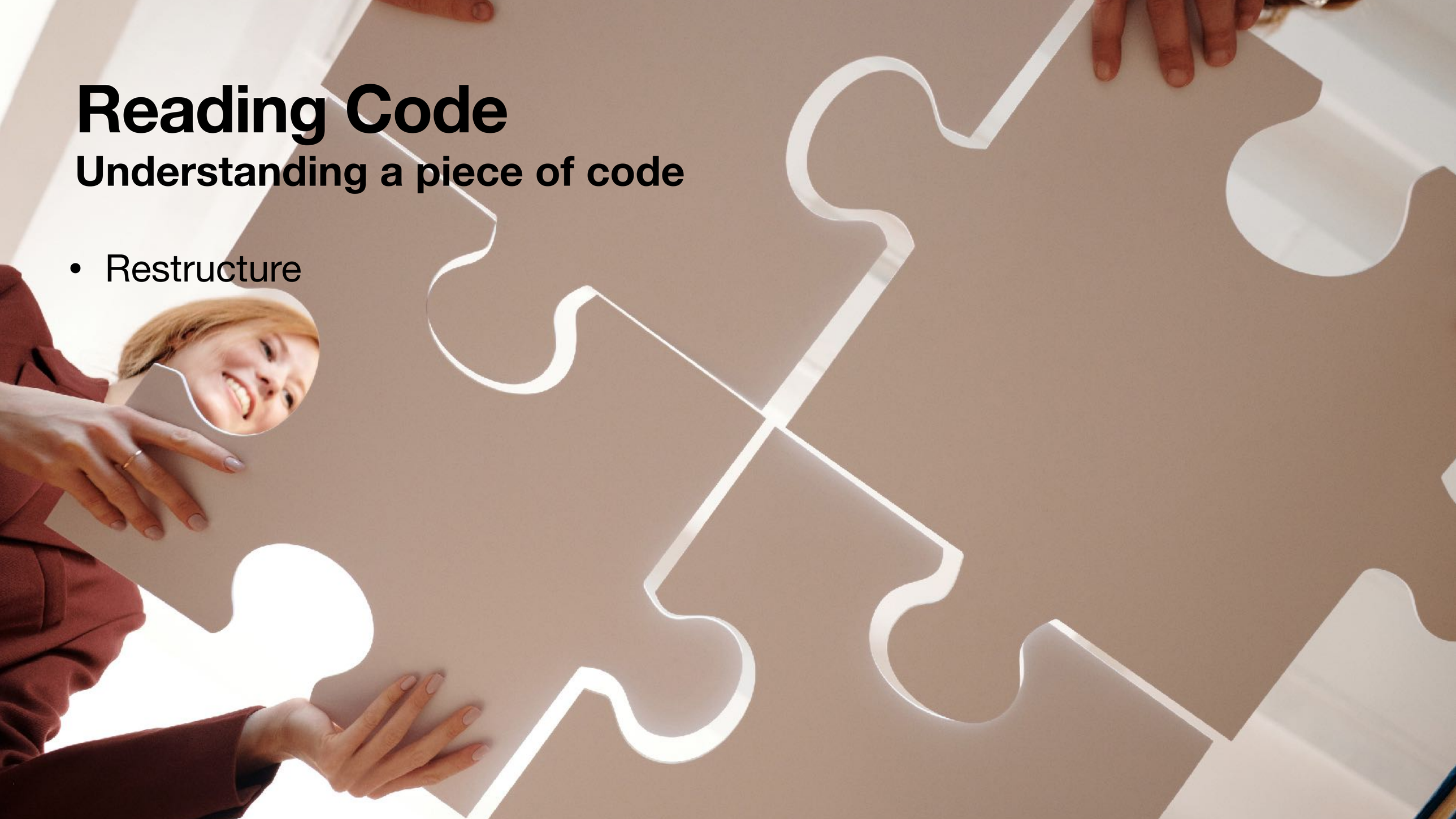
- Structure



Reading Code

Understanding a piece of code

- Restructure



Reading Code

Understanding a piece of code

- Behavior

Reading Code

Understanding a piece of code

- Context

Demo time: Understanding a piece of code

Syntax highlighting & other hints
Structure / Restructure
Behavior
Context

Reading code

Summary

- Clone & build project
- Components & Concepts
- Relationships / Dependencies
- Find a place to start
- Search
- Navigate

- Find a way to start
- Structured exercises
- Syntax
- Structure / Restructure
- Behavior
- Context

Reading Code

Next steps

- Do try this at home

Reading code

Slides & More

https://maritvandijk.com/presentations/reading-code/

goto;

Don’t forget to
rate this session
in the **GOTO Guide app**