



Coding Dojo: Data Munging (without control structures)

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Peter Kofler

- Ph.D. (Appl. Math.)
- Professional Software Developer for 15+ years
- “fanatic about code quality”
- Freelance Code Mentor



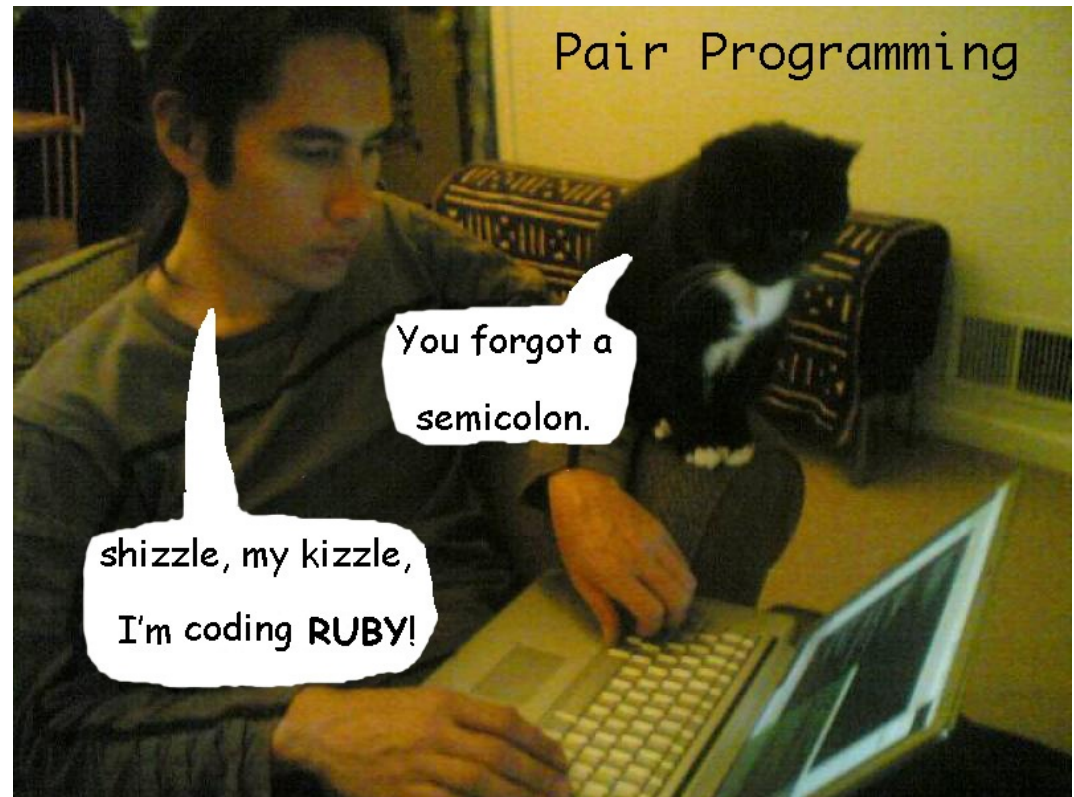
I help development teams with

- Professionalism
- Quality and Productivity
- Continuous Improvement



Mentoring

- Pair Programming
- Programming Workshops
- Deliberate Practice, e.g. Coding Dojos



Developing Quality Software Developers

Dojo Structure

- Introduction 15'
- Coding 60'
- Retrospective 15'
- Break 15'
- Coding 60'
- Retrospective 15'



Coding Dojo Mindset

- Safe place outside work
- We are here to learn
- Need to slow down
- Focus on doing it right
- Collaborative Game



Coding Dojo Rules



Pair Programming & TDD

- regular Pair Programming
 - do not talk for too long
 - do not interrupt the other
 - no “keyboard hugging“
- use TDD (or at least “sort of” TDD)
 - write a test before you write code
 - refactor mercilessly
 - no debugger

Constraints

- Challenges during a dojo or coderetreat
- Moving to the extreme is a way of learning
- Examples
 - Missing Tool (No Mouse, ...)
 - Missing Feature (No IFs, ...)

Constraint: Complexity One

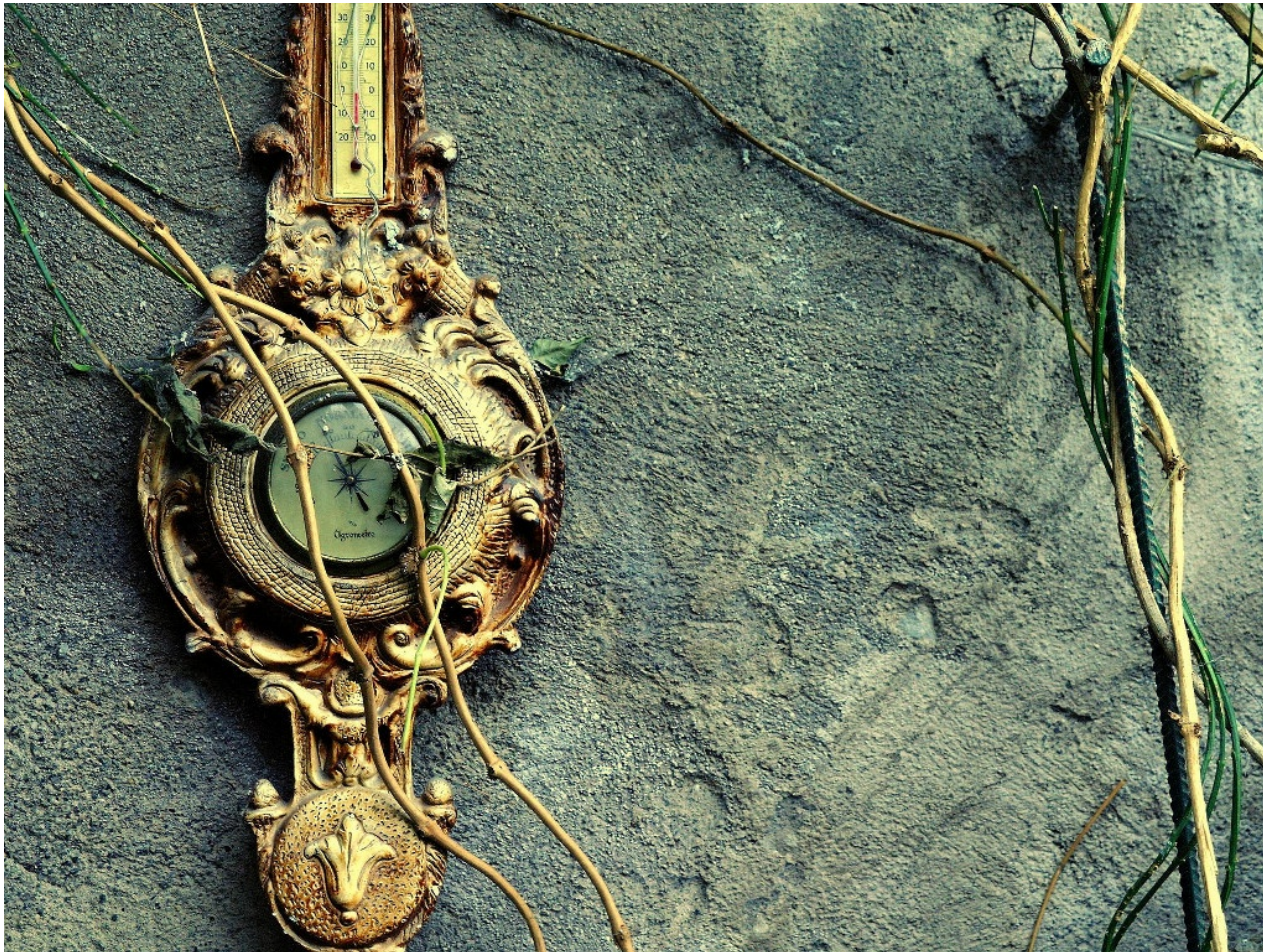


Cyclomatic Complexity One

- No conditional statements (**if**, **switch**, **?:**)
- No loops (**for**, **while**, **loop**, etc.)
- Technically no control structures.

- Use `Optional` or `Maybe` type.
- Use higher order functions like `map`, `filter` and `reduce` instead.

Assignment Part 1



Weather “Data Munging”

- `weather.dat` contains daily weather data for a month.
- Find the day number (column one)
- with the smallest temperature spread. (Max temperature is second column, min temperature is third column.)

Prepare

- Find a pair.
- Choose a programming language.
- Set up the environment.
 - Create new project.
 - Add testing framework.
- Check `part1/requirements.txt`.
- Implement Data Munging.

Don't Focus on
Getting it Done.
Focus on Doing
It Perfectly.

→ Practice

Assignment Part 2



Soccer “Data Munging”

- `football.dat` contains the results from the English Soccer League.
- The columns 'F' and 'A' contain the total number of goals scored for and against each team.
- Find the name of the team
- with the smallest difference in 'for' (F) and 'against' (A) goals.

→ Practice

Assignment Part 3



DRY Fusion

- Take the two programs written,
- factor out as much common code as possible,
- leaving you with two smaller programs
- and some kind of shared functionality.

→ Practice

Closing Circle

- What did you learn today?
- What surprised you today?
- What will you do differently in the future?





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Kata by

Dave Thomas

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<http://codekata.com/kata/kata04-data-munging/>

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