

Coderetreat



4 Rules of Simple Design
Pair Programming
Test Driven Development
Game of Life

Introduction

A Coderetreat is a hands-on software development workshop format.

It consists of multiple 45-minutes sessions. In these you implement Conway's Game of Life with another person together using Test-Driven Development (TDD) and the 4 Rules of Simple Design.

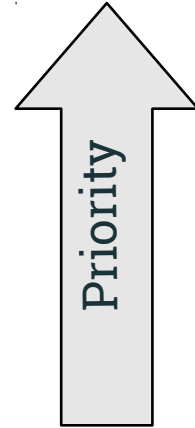
Be ready to delete your code after each session and take some time to reflect about it.

You have the chance to pair up with several people through the day. Please be welcoming, kind and patient to each other.

Have fun coderetreating!

4 Rules of Simple Design

- 1) Test Pass
- 2) Expresses Intent
- 3) No Duplication
- 4) Small



Make tests pass all the time

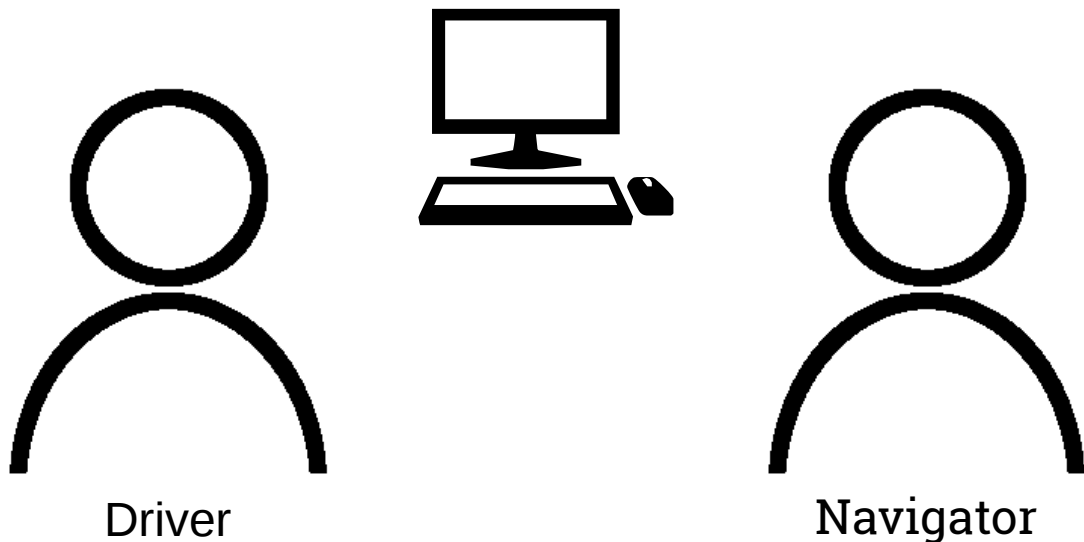
Use expressive language

Don't duplicate knowledge

Keep only necessary parts

Lookup and discuss "Don't Repeat Yourself" (DRY) and "You Ain't Gonna Need It" (YAGNI) and what it means in the context of above rules.

Pair Programming



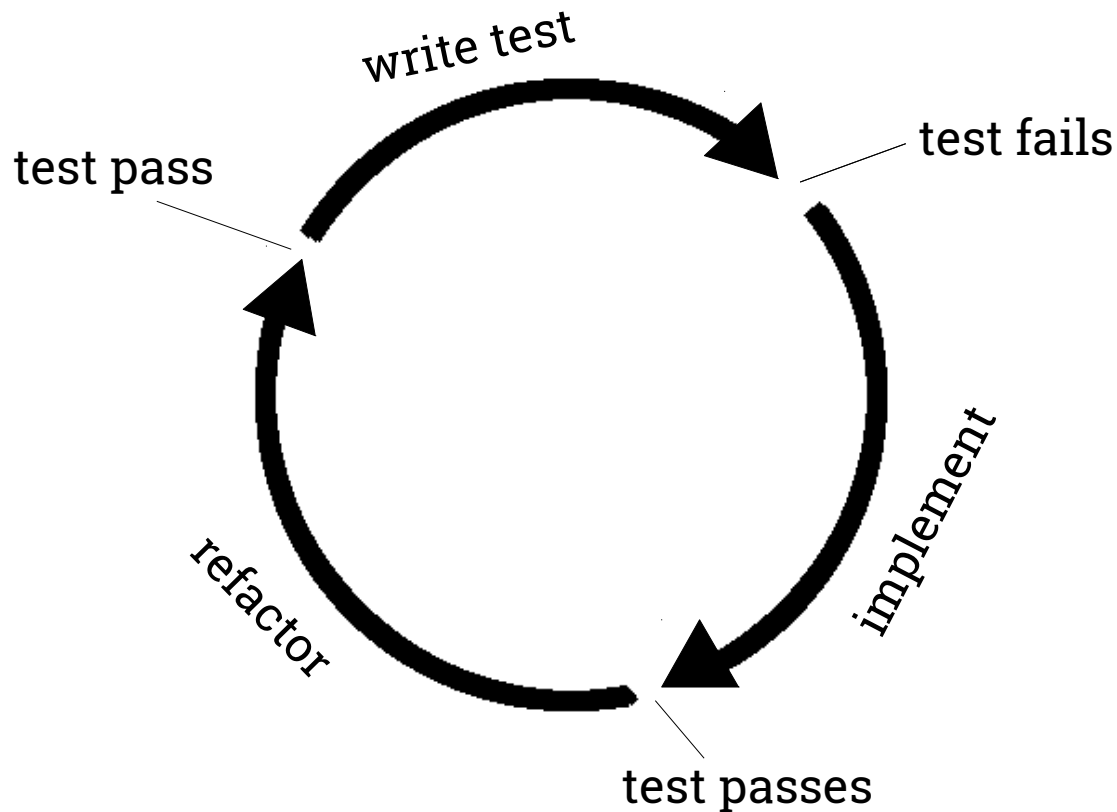
Talk before you start coding, discuss and get a common understanding of the system and tasks ahead.

Driver communicates while typing and changing code.

Navigator supports driver and keeps an eye on the code base fit of the current changes.

Switch roles regularly, take breaks and high five your successes.

Test Driven Development



Start the cycle with a test.

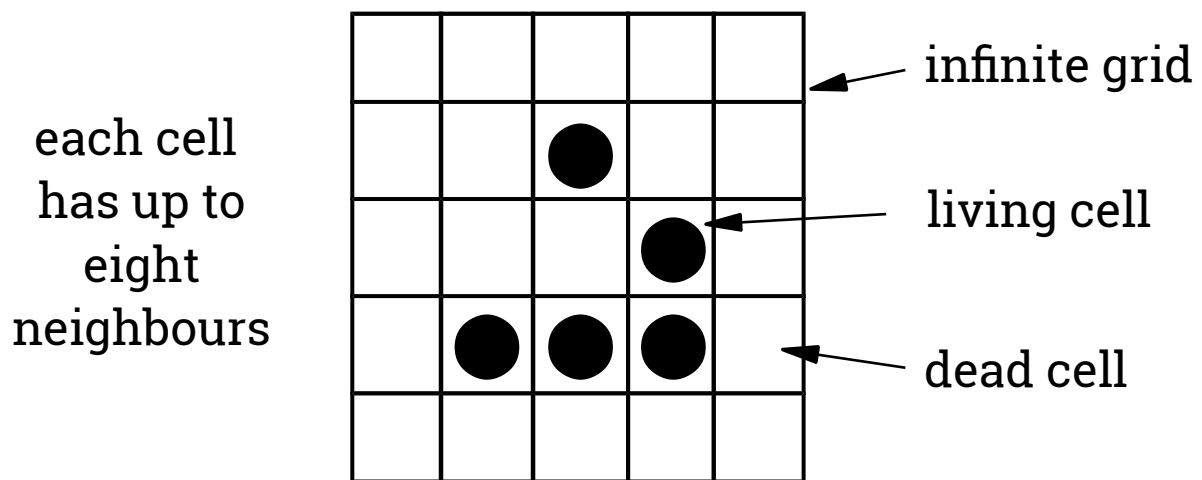
Think about what you want to ensure the implementation should do, then let it fail.

Write a minimal implementation which lets the test pass.

Refactor code if needed to improve the design, while tests still pass.

Write next test ...

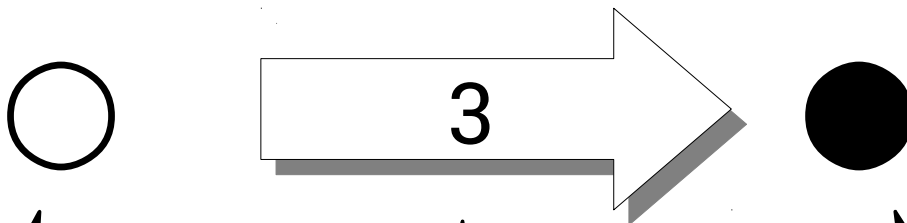
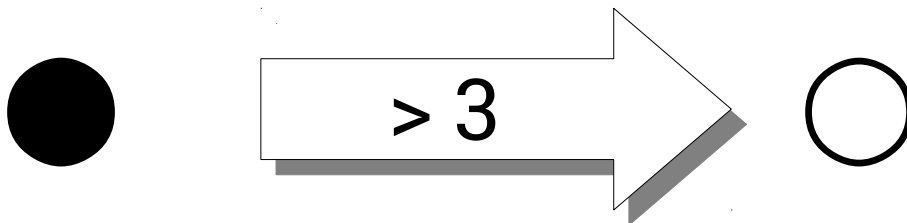
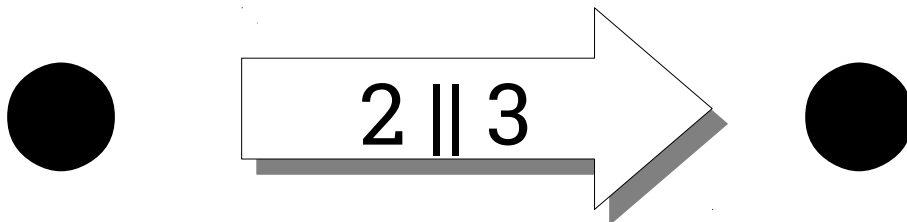
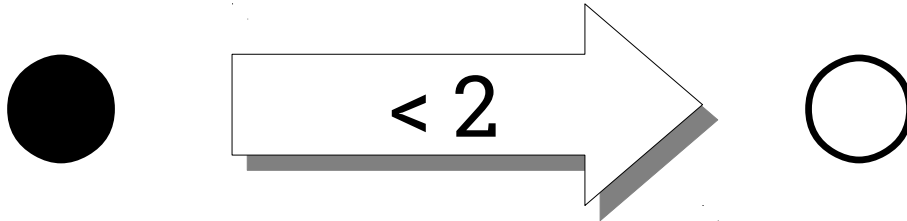
Conway's Game of Life



Rules are applied on grid at once.

- 1) If cell has less than two neighbours, it's dead in the next generation.
- 2) If a living cell has two or three neighbours, it stays alive in the next generation.
- 3) If a living cell has more than three living neighbours, it's dead in the next generation.
- 4) If a dead cell has exactly three living neighbours, it comes to life in the next generation.

Game of Life Rules



dead cell
↑

change criteria
↑

living cell
↑

References



Coderetreat Website



Software Crafter
Community Website



Github repository
of this booklet

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