

# Data-Oriented Programming and REST APIs

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# Contact Info

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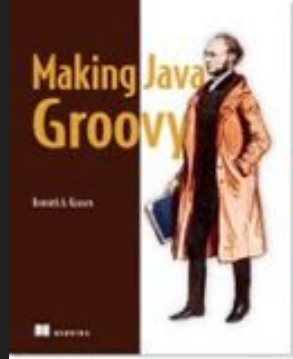
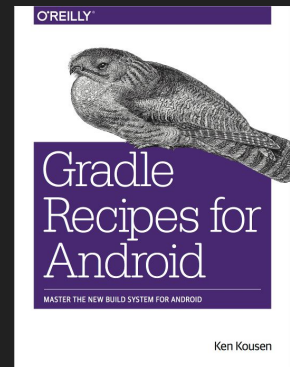
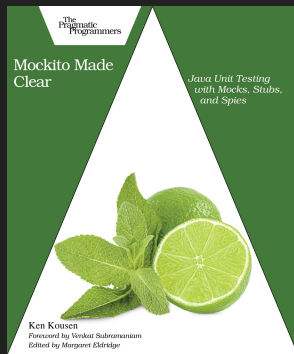
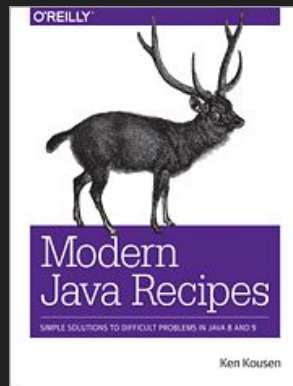
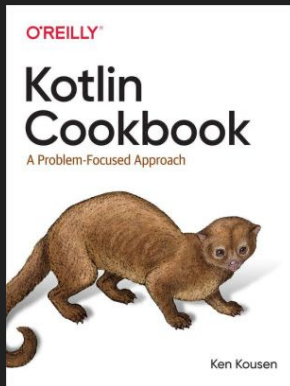
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*Tales from the jar side* (free newsletter)

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# Data-Oriented Programming

- An approach to software development that emphasizes the **separation** of data and behavior
- **Operations** are kept **separate** from **data structures**
- **Transformations** are used on the data
- **Immutability** is encouraged
- **Functional** processing with streams

# D.O.P. in Java

- Java 21 has everything you need
  - **Records** for the data structures
  - **Sealed interfaces** to limit the types to only what you need
  - **Pattern matching for switch** for the behavior
- See article by Brian Goetz, [Data Oriented Programming](https://www.infoq.com/articles/data-oriented-programming-java/) in Java,  
<https://www.infoq.com/articles/data-oriented-programming-java/>

# GitHub repository

- <https://github.com/kousen/dataorientedprogramming>
  - **User** types
  - **Astro** → Success / Failure
  - **Ollama** → Text vs Vision models
  - **Anthropic** → Message types in Claude API

# Data-Oriented Programming

- Advantages:
  - Performance
  - Simplicity and Maintainability
  - Concurrency (immutable objects)
  - Testability (stateless functions)