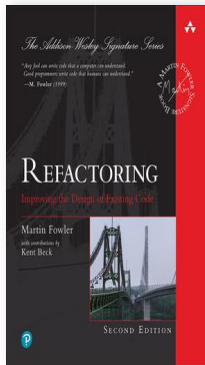


[Sign In](#)[START FREE TRIAL](#)

Refactoring: Improving the Design of Existing Code

8 reviews

by Martin Fowler

Publisher: Addison-Wesley Professional

Release Date: November 2018

ISBN: 9780134757681

[View table of contents](#)

START READING

Book Description

Fully Revised and Updated—Includes New Refactorings and Code Examples

- *“Any fool can write code that a computer can understand. Good programmers write code that humans can understand.”*
—M. Fowler (1999)

For more than twenty years, experienced programmers worldwide have relied on Martin Fowler’s *Refactoring* to improve the design of existing code and to enhance software maintainability, as well as to make existing code easier to understand.

This eagerly awaited new edition has been fully updated to reflect crucial changes in the programming landscape. ***Refactoring, Second Edition***, features an updated catalog of refactorings and includes JavaScript code examples, as well as new functional examples that demonstrate refactoring without classes.

Like the original, this edition explains what refactoring is; why you should refactor; how to recognize code that needs refactoring; and how to actually do it successfully, no matter what language you use.

- Recognize “bad smells” in code that signal opportunities to refactor
- Explore the refactorings, each with explanations, motivation, mechanics, and simple examples
- Build solid tests for your refactorings
- Recognize tradeoffs and obstacles to refactoring

Includes free access to the canonical web edition, with even more refactoring resources. (See inside the book for details about how to access the web edition.)

Table of Contents

Cover Page

About This E-Book

Front End Paper

Title Page

Copyright Page

Dedication Page

Contents

Foreword to the First Edition

Preface

What Is Refactoring?

What's in This Book?

Who Should Read This Book?

Building on a Foundation Laid by Others

Acknowledgments

Comments on the Starting Program

The First Step in Refactoring

Decomposing the statement Function

Status: Lots of Nested Functions

Splitting the Phases of Calculation and Formatting

Status: Separated into Two Files (and Phases)

Reorganizing the Calculations by Type

Status: Creating the Data with the Polymorphic Calculator

Final Thoughts

Chapter 2 Principles in Refactoring

Defining Refactoring

The Two Hats

Why Should We Refactor?

When Should We Refactor?

Problems with Refactoring

Refactoring, Architecture, and Yagni

Refactoring and the Wider Software Development Process

Refactoring and Performance

Where Did Refactoring Come From?

Automated Refactorings

Going Further

Chapter 3 Bad Smells in Code

Mysterious Name

Duplicated Code

Long Function

Long Parameter List

Global Data

[Sign In](#)[START FREE TRIAL](#)

Shotgun Surgery

Feature Envy

Data Clumps

Primitive Obsession

Repeated Switches

Loops

Lazy Element

Speculative Generality

Temporary Field

Message Chains

Middle Man

Insider Trading

Large Class

Alternative Classes with Different Interfaces

Data Class

Refused Bequest

Comments

Chapter 4 Building Tests

The Value of Self-Testing Code

Sample Code to Test

A First Test

Add Another Test

Modifying the Fixture

Probing the Boundaries

Much More Than This

Chapter 5 Introducing the Catalog

Format of the Refactorings

Extract Function

Inline Function

Extract Variable

Inline Variable

Change Function Declaration

Encapsulate Variable

Rename Variable

Introduce Parameter Object

Combine Functions into Class

Combine Functions into Transform

Split Phase

Chapter 7 Encapsulation

Encapsulate Record

Encapsulate Collection

Replace Primitive with Object

Replace Temp with Query

Extract Class

Inline Class

Hide Delegate

Remove Middle Man

Substitute Algorithm

Chapter 8 Moving Features

Move Function

Move Field

Move Statements into Function

Move Statements to Callers

Replace Inline Code with Function Call

[Sign In](#)[START FREE TRIAL](#)[replace Loop with Pipeline](#)[Remove Dead Code](#)

Chapter 9 Organizing Data

[Split Variable](#)[Rename Field](#)[Replace Derived Variable with Query](#)[Change Reference to Value](#)[Change Value to Reference](#)

Chapter 10 Simplifying Conditional Logic

[Decompose Conditional](#)[Consolidate Conditional Expression](#)[Replace Nested Conditional with Guard Clauses](#)[Replace Conditional with Polymorphism](#)[Introduce Special Case](#)[Introduce Assertion](#)

Chapter 11 Refactoring APIs

[Separate Query from Modifier](#)[Parameterize Function](#)[Remove Flag Argument](#)[Preserve Whole Object](#)[Replace Parameter with Query](#)[Replace Query with Parameter](#)[Remove Setting Method](#)[Replace Constructor with Factory Function](#)[Replace Function with Command](#)[Replace Command with Function](#)

Chapter 12 Dealing with Inheritance

[Sign In](#)[START FREE TRIAL](#)[Full Up Constructor Body](#)[Push Down Method](#)[Push Down Field](#)[Replace Type Code with Subclasses](#)[Remove Subclass](#)[Extract Superclass](#)[Collapse Hierarchy](#)[Replace Subclass with Delegate](#)[Replace Superclass with Delegate](#)

[Bibliography](#)

[Index](#)

[Back End Paper](#)

[Code Snippets](#)[Explore](#)[Tour](#)[Pricing](#)[Enterprise](#)[Government](#)[Education](#)[Queue App](#)

[Sign In](#)

[START FREE TRIAL](#)

[Contact](#)

[Careers](#)

[Press Resources](#)

[Support](#)

[Twitter](#)

[GitHub](#)

[Facebook](#)

[LinkedIn](#)

[Terms of Service](#)

[Membership Agreement](#)

[Privacy Policy](#)

Copyright © 2019 Safari Books Online.