

S Test Driven Development By Example Kent Beck

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Learning PHP 7 Antonio Lopez 2016-03-29 Learn the art of PHP programming through this example-rich book filled to the brim with tutorials every PHP developer needs to know About This Book Set up the PHP environment and get started with web programming Leverage the potential of PHP for server-side programming, memory management, and object-oriented programming (OOP) This book is packed with real-life examples to help you implement the concepts as you learn Who This Book Is For If you are a web developer or programmer who wants to create real-life web applications using PHP 7, or a beginner who wants to get started with PHP 7 programming, this book is for you. Prior knowledge of PHP, PHP 7, or programming is not mandatory. What You Will Learn Set up a server on your machine with PHP Use PHP syntax with the built-in server to create apps Apply the OOP paradigm to PHP to write richer code Use MySQL to manage data in your web applications Create a web application from scratch using MVC Add tests to your web application and write testable code Use an existing PHP framework to build and manage your applications Build REST APIs for your PHP applications Test the behavior of web applications with Behat In Detail PHP is a great language for building web applications. It is essentially a server-side scripting language that is also used for general purpose programming. PHP 7 is the latest version with a host of new features, and it provides major backwards-compatibility breaks. This book begins with the fundamentals of PHP programming by covering the basic concepts such as variables, functions, class, and objects. You will set up PHP server on your machine and learn to read and write procedural PHP code. After getting an understanding of OOP as a paradigm, you will execute MySQL queries on your database. Moving on, you will find out how to use MVC to create applications from scratch and add tests. Then, you will build REST APIs and perform behavioral tests on your applications. By the end of the book, you will have the skills required to read and write files, debug, test, and work with MySQL. Style and approach This book begins with the basics that all PHP developers use every day and then dives deep into detailed concepts and tricks to help you speed through development. You will be able to learn the concepts by performing practical tasks and implementing them in your daily activities, all at your own pace.

Test Driven Development for Embedded C James W. Grenning 2011-04-25 Another day without Test-Driven Development means more time wasted chasing bugs and watching your code deteriorate. You thought TDD was for someone else, but it's not! It's for you, the embedded C programmer. TDD helps you prevent defects and build software with a long useful life. This is the first book to teach the hows and whys of TDD for C programmers. TDD is a modern programming practice C developers need to know. It's a different way to program--unit tests are written in a tight feedback loop with the production code, assuring your code does what you think. You get valuable feedback every few minutes. You find mistakes before they become bugs. You get early warning of design problems. You get immediate notification of side effect defects. You get to spend more time adding valuable features to your product. James is one of the few experts in applying TDD to embedded C. With his 1.5 decades of training, coaching, and practicing TDD in C, C++, Java, and C# he will lead you from being a novice in TDD to using the techniques that few have mastered. This book is full of code written for embedded C programmers. You don't just see the end product, you see code and tests evolve. James leads you through the thought process and decisions made each step of the way. You'll learn techniques for test-driving code right nextto the hardware, and you'll learn design principles and how to apply them to C to keep your code clean and flexible. To run the examples in this book, you will need a C/C++ development environment on your machine, and the GNU GCC tool chain or Microsoft Visual Studio for C++ (some project conversion may be needed).

Test-Driven iOS Development Graham Lee 2012-04-12 As iOS apps become increasingly complex and business-critical, iOS developers must ensure consistently superior code quality. This means adopting best practices for creating and testing iOS apps. Test-Driven Development (TDD) is one of the most powerful of these best practices. Test-Driven iOS Development is the first book 100% focused on helping you successfully implement TDD and unit testing in an iOS environment. Long-time iOS/Mac developer Graham Lee helps you rapidly integrate TDD into your existing processes using Apple's Xcode 4 and the OCUnit unit testing framework. He guides you through constructing an entire Objective-C iOS app in a test-driven manner, from initial specification to functional product. Lee also introduces powerful patterns for applying TDD in iOS development, and previews powerful automated testing capabilities that will soon arrive on the iOS platform. Coverage includes understanding the purpose, benefits, and costs of unit testing in iOS environments Mastering the principles of TDD, and applying them in areas from app design to refactoring Writing usable, readable, and repeatable iOS unit tests Using OCUnit to set up your Xcode project for TDD Using domain analysis to identify the classes and interactions your app needs, and designing it accordingly Considering third-party tools for iOS unit testing Building networking code in a test-driven manner Automating testing of view controller code that interacts with users Designing to interfaces, not implementations Testing concurrent code that typically runs in the background Applying TDD to existing apps Preparing for Behavior Driven Development (BDD) The only iOS-specific guide to TDD and unit testing. Test-Driven iOS Development covers both essential concepts and practical implementation.

Test-Driven Development Thomas Hammell 2007-03-01 * This will be the first book to show how to implement a test-driven development process in detail as it applies to real world J2EE applications. * Combines the tools and methodologies of test-driven development with real world use cases, unlikely most titles which cover one or the other. * Looks at the complete process including test coverage strategies, test organization, incorporating TDD into new and existing projects as well as how to automate it all. * This book is not version specific.

Test-Driven Development- simpleNeasyBook by WAGmob WAGmob 2013-11-27 ***** WAGmob: Over One million Paying Customers ***** WAGmob brings you, simpleNeasy, on-the-go learning ebook for "Test Driven Development". The ebook provides: Snack sized chapters for easy learning. Designed for both students and adults. This ebook provides a quick summary of essential concepts in Test Driven Development by following snack sized chapters: Introduction: • Introduction • Test First Development (TFD) • Benefits of Test-Driven Development • Process Example to TDD Approach Introduction to Unit Testing: • What is Unit Testing? • Method • When is it Performed? • Who Performs it? • Benefits of Unit Testing • Mock Objects • Why Mocking is important? • Test Double • Types of Test Doubles A Quick Review of Refactoring: • What is Code Refactoring? • Overview of Refactoring • Why do You Refactor? • When do You Refactor? • Steps for Refactoring • Two Categories of Benefits to the Activity of Refactoring Refactoring Examples: • Refactoring Examples • Rename Class/ Method/ Variables • Method Slicing/Extraction • Architecture Driven Refactoring - Modularity • Movement of Methods or Class • Code to Interface • Constructors Chaining Phases of Test Driven Development: • Steps to be followed in Test Driven Development • Test Structure • Shortcomings Software of Test Driven Development: • Software for Test Driven Development • CppUTest • csUnit • DbUnit • jMock • JUnit • NUnit • PHPUnit Integration Testing: • Integration Testing • Why is Integration Testing Required? • Big Bang • Top Down • Bottom Up • Limitations GUI Testing: • GUI Testing • Text Based GUI Testing Framework • Introducing Bailey Testing Framework (Graphic based GUI Testing Framework) • How it Works? • Pseudo Code .NET TDD Iteration I: • .NET TDD (Test Driven Development) by Example •

Introduction • Development Costs • Sample Code • The Tools • Iteration I • Creating the Libraries • Going Back to the Requirements • First Two Tests - RED • Get the Tests Failing with the Minimal Amount of Code • Using the Test Explorer to View and Run the Tests • Make the Test Pass (Green) • Make Some Changes .NET TDD Iteration II: • Iteration II • Introduce More Tests (Red) • Make the Test Pass (a second time; Green) • Debugging Tests About WAGmob ebooks: 1) A companion ebook for on-the-go, bite-sized learning. 2) Over One million paying customers from 175+ countries. Why WAGmob ebooks: 1) Beautifully simple. Amazingly easy. Massive selection of ebooks. 2) Effective, Engaging and Entertaining ebooks. 3) An incredible value for money. Lifetime of free updates! WAGmob vision : simpleNeasy ebooks for a lifetime of on-the-go learning WAGmob Mission : A simpleNeasy WAGmob ebook in every hand. Visit us : www.SimpleNeasyBook.Com Please write to us at Team (at)simpleNeasyBook.Com. We would love to improve this Book.

Thoughtful Machine Learning Matthew Kirk 2014-09-26 Learn how to apply test-driven development (TDD) to machine-learning algorithms—and catch mistakes that could sink your analysis. In this practical guide, author Matthew Kirk takes you through the principles of TDD and machine learning, and shows you how to apply TDD to several machine-learning algorithms, including Naive Bayesian classifiers and Neural Networks. Machine-learning algorithms often have tests baked in, but they can't account for human errors in coding. Rather than blindly rely on machine-learning results as many researchers have, you can mitigate the risk of errors with TDD and write clean, stable machine-learning code. If you're familiar with Ruby 2.1, you're ready to start. Apply TDD to write and run tests before you start coding Learn the best uses and tradeoffs of eight machine learning algorithms Use real-world examples to test each algorithm through engaging, hands-on exercises Understand the similarities between TDD and the scientific method for validating solutions Be aware of the risks of machine learning, such as underfitting and overfitting data Explore techniques for improving your machine-learning models or data extraction

Fundamentals of Computer Programming with C# Svetlin Nakov 2013-09-01 The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The books does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from http://introprogramming.info. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN: 9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: http://www.introprogramming.info License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console, conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML, design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733

Test-Driven Java Development Viktor Farcic 2015-08-27 Invoke TDD principles for end-to-end application development with Java About This Book Explore the most popular TDD tools and frameworks and become more proficient in building applications Create applications with better code design, fewer bugs, and higher test coverage, enabling you to get them to market quickly Implement test-driven programming methods into your development workflows Who This Book Is For If you're an experienced Java developer and want to implement more effective methods of programming systems and applications, then this book is for you. What You Will Learn Explore the tools and frameworks required for effective TDD development Perform the Red-Green-Refactor process efficiently, the pillar around which all other TDD procedures are based Master effective unit testing in isolation from the rest of your code Design simple and easily maintainable codes by implementing different techniques Use mocking frameworks and techniques to easily write and quickly execute tests Develop an application to implement behaviour-driven development in conjunction with unit testing Enable and disable features using Feature Toggles In Detail Test-driven development (TDD) is a development approach that relies on a test-first procedure that emphasises writing a test before writing the necessary code, and then refactoring the code to optimize it. The value of performing TDD with Java, one of the most established programming languages, is to improve the productivity of programmers, the maintainability and performance of code, and develop a deeper understanding of the language and how to employ it effectively. Starting with the basics of TDD and reasons why its adoption is beneficial, this book will take you from the first steps of TDD with Java until you are confident enough to embrace the practice in your day-to-day routine. You'll be guided through setting up tools, frameworks, and the environment you need, and will dive right in to hands-on-exercises with the goal of mastering one practice, tool, or framework at a time. You'll learn about the Red-Green-Refactor procedure, how to write unit tests, and how to use them as executable documentation. With this book you'll also discover how to design simple and easily maintainable code, work with mocks, utilise behaviour-driven development, refactor old legacy code, and release a half-finished feature to production with feature toggles. You will finish this book with a deep understanding of the test-driven development methodology and the confidence to apply it to application programming with Java. Style and approach An easy-to-follow, hands-on guide to building applications through effective coding practices. This book covers practical examples by introducing different problems, each one designed as a learning exercise to help you understand each aspect of TDD.

Test-Driven Development David Astels 2003 This guide for programmers teaches how to practice Test Driven Development (TDD), also called Test First Development. Contrary to the accepted approach to testing, when you practice TDD you write tests for code before you write the code being tested. This text provides examples in Java.

Android Test-Driven Development by Tutorials (Second Edition) raywenderlich Tutorial Team 2021-07-20 Learn Android Test-Driven Development! Writing apps is hard. Writing testable apps is even harder, but it doesn't have to be. Reading and understanding all the official Google documentation on testing can be time-consuming - and confusing. This is where Android Test-Driven Development comes to the rescue! In this book, you'll learn about Android Test-Driven Development the quick and easy way: by following fun and easy-to-read tutorials. Who This Book Is For This book is for the intermediate Android developers who already know the basics of Android and Kotlin development but want to learn Android Test-Driven Development. Topics Covered in Android Test-Driven Development - Getting Started with Testing: Learn the core concepts involved in testing including what is a test, why should you test, what should you test and what you should not test. - Test-Driven Development (TDD): Discover the Red-Green-Refactor steps and how to apply them. - The Testing Pyramid: Learn about the

different types of tests and how to organize them. - Unit Tests: Learn how to start writing unit tests with TDD using JUnit and Mockito. - Integration Tests: Writing tests with different subsystems is a must in today's complex application world. Learn how to test with different subsystems including the persistence and network layers. - Architecting for Testing: Explore how to architect your app for testing and why it matters. - TDD on Legacy Projects: Take your TDD to the next level by learning how to apply it to existing legacy projects. And much more, including Espresso tests, UI tests, code coverage and refactoring. One thing you can count on: after reading this book, you'll be prepared to take advantage of Android Test-Driven Development in your own apps!

Test-Driven JavaScript Development Christian Johansen 2010-09-09 For JavaScript developers working on increasingly large and complex projects, effective automated testing is crucial to success. Test-Driven JavaScript Development is a complete, best-practice guide to agile JavaScript testing and quality assurance with the test-driven development (TDD) methodology. Leading agile JavaScript developer Christian Johansen covers all aspects of applying state-of-the-art automated testing in JavaScript environments, walking readers through the entire development lifecycle, from project launch to application deployment, and beyond. Using real-life examples driven by unit tests, Johansen shows how to use TDD to gain greater confidence in your code base, so you can fearlessly refactor and build more robust, maintainable, and reliable JavaScript code at lower cost. Throughout, he addresses crucial issues ranging from code design to performance optimization, offering realistic solutions for developers, QA specialists, and testers. Coverage includes • Understanding automated testing and TDD • Building effective automated testing workflows • Testing code for both browsers and servers (using Node.js) • Using TDD to build cleaner APIs, better modularized code, and more robust software • Writing testable code • Using test stubs and mocks to test units in isolation • Continuously improving code through refactoring • Walking through the construction and automated testing of fully functional software The accompanying Web site, tddjs.com, contains all of the book's code listings and additional resources.

Test-Driven Development in Swift Gio Lodi 2021-07-02 Leverage Swift to practice effective and efficient test-driven development (TDD) methodology. Software testing and TDD are evergreen programming concepts—yet Swift developers haven't widely adopted them. What's needed is a clear roadmap to learn and adopt TDD in the Swift world. Over the past years, Apple has invested in XCTest and Xcode's testing infrastructure, making testing a new top priority in their ecosystem. Open-source libraries such as Quick and Nimble have also reached maturity. The tools are there. This book will show you how to wield them. TDD has much more to offer than catching bugs. With this book, you'll learn a philosophy for building software. TDD enables engineers to solve problems incrementally, writing only as much code as necessary. By decomposing big problems into small steps, you can move along at a fast pace, always making visible progress. Participate in the test-driven development journey by building a real iOS application and incorporating new concepts through each chapter. The book's concepts will emerge as you figure out ways to use tests to drive the solutions to the problems of each chapter. Through the TDD of a single application, you'll be introduced to all the staples and advanced concepts of the craft, understand the trade offs each technique offers, and review an iterative process of software development. Test-Driven Development in Swift provides the path for a highly efficient way to make amazing apps. What You'll Learn Write tests that are easy to maintain Look after an ever-growing test suite Build a testing vocabulary that can be applied outside The Swift world See how Swift programming enhances the TDD flow seen in dynamic languages Discover how compiler errors can provide the same helpful guidance as failing tests do Who This Book Is For Mid-level developers keen to write higher quality code and improve their workflows. Also, developers that have already been writing tests but feel they are not getting the most out of them.

Lean-agile Acceptance Test-driven Development Kenneth Pugh 2011 How to scale ATDD to large projects --

Test-Driven Development Lech Madeyski 2009-12-05 Agile methods are gaining more and more interest both in industry and in research. Many industries are transforming their way of working from traditional waterfall projects with long duration to more incremental, iterative and agile practices. At the same time, the need to evaluate and to obtain evidence for different processes, methods and tools has been emphasized. Lech Madeyski offers the first in-depth evaluation of agile methods. He presents in detail the results of three different experiments, including concrete examples of how to conduct statistical analysis with meta analysis or the SPSS package, using as evaluation indicators the number of acceptance tests passed (overall and per hour) and design complexity metrics. The book is appropriate for graduate students, researchers and advanced professionals in software engineering. It proves the real benefits of agile software development, provides readers with in-depth insights into experimental methods in the context of agile development, and discusses various validity threats in empirical studies.

Software Quality. Model-Based Approaches for Advanced Software and Systems Engineering Dietmar Winkler 2014-01-09 This book constitutes the refereed proceedings of the 6th Software Quality Days Conference (SQWD) held in Vienna, Austria, in January 2014. This professional symposium and conference offers a range of comprehensive and valuable opportunities for advanced professional training, new ideas and networking with a series of keynote speeches, professional lectures, exhibits and tutorials. The four scientific full papers accepted for SQWD were each peer reviewed by three or more reviewers and selected out of 24 high-quality submissions. Further, one keynote and ten short papers on promising research directions were also presented and included in order to spark discussions between researchers and practitioners. The papers are organized into topical sections on software process improvement and measurement, requirements management, value-based software engineering, software and systems testing, automation-supported testing and quality assurance and collaboration.

Test-Driven Python Development Siddharta Govindaraj 2015-04-29 This book is intended for Python developers who want to use the principles of test-driven development (TDD) to create efficient and robust applications. In order to get the best out of this book, you should have development experience with Python.

Agile Java™ Jeff Langr 2005-02-14 Master Java 5.0 and TDD Together: Build More Robust, Professional Software Master Java 5.0, object-oriented design, and Test-Driven Development (TDD) by learning them together. Agile Java weaves all three into a single coherent approach to building professional, robust software systems. Jeff Langr shows exactly how Java and TDD integrate throughout the entire development lifecycle, helping you leverage today's fastest, most efficient development techniques from the very outset. Langr writes for every programmer, even those with little or no experience with Java, object-oriented development, or agile methods. He shows how to translate oral requirements into practical tests, and then how to use those tests to create reliable, high-performance Java code that solves real problems. Agile Java doesn't just teach the core features of the Java language: it presents coded test examples for each of them. This TDD-centered approach doesn't just lead to better code: it provides powerful feedback that will help you learn Java far more rapidly. The use of TDD as a learning mechanism is a landmark departure from conventional teaching techniques. Presents an expert overview of TDD and agile programming techniques from the Java developer's perspective Brings together practical best practices for Java, TDD, and OO design Walks through setting up Java 5.0 and writing your first program Covers all the basics, including strings, packages, and more Simplifies object-oriented concepts, including classes, interfaces, polymorphism, and inheritance Contains detailed chapters on exceptions and logging, math, I/O, reflection, multithreading, and Swing Offers seamlessly-integrated explanations of Java 5.0's key innovations, from generics to annotations Shows how TDD impacts system design, and vice versa Complements any agile or traditional methodology, including Extreme Programming (XP)

Professional Test Driven Development with C# James Bender 2011-04-15 Hands-on guidance to creating great test-driven developmentpractice Test-driven development (TDD) practice helps developersrecognize a well-designed application, and encourages writing atest before writing the functionality that needs to be implemented. This hands-on guide provides invaluable insight for creatingsuccessful test-driven development processes. With source code andexamples featured in both C# and .NET, the book walks you throughthe TDD methodology and shows how it is applied to a real-worldapplication. You'll witness the application built fromscratch and details each step that is involved in the development,as well as any problems that were encountered and the solutionthat were applied. Clarifies the motivation behind test-driven development (TDD),what it is, and how it works Reviews the various steps involved in developing an applicationand the testing that is involved prior to implementing thefunctionality Discusses unit testing and refactoring Professional Test-Driven Development with C# shows youhow to create great TDD processes right away.

Test-Driven Development with Python Harry Percival 2017-08-02 By taking you through the development of a real web application from beginning to end, the second edition of this hands-on guide demonstrates the practical advantages of test-driven development (TDD) with Python. You'll learn how to write and run tests before building each part of your app, and then develop the minimum amount of code required to pass those tests. The result? Clean code that works. In the process, you'll learn the basics of Django, Selenium, Git, jQuery, and Mock, along with current web development techniques. If you're ready to take your Python skills to the next level, this book—updated for Python 3.6—clearly demonstrates how TDD encourages simple designs and inspires confidence. Dive into the TDD workflow, including the unit test/code cycle and refactoring Use unit tests for classes and functions, and functional tests for user interactions within the browser Learn when and how to use mock objects, and the pros and cons of isolated vs. integrated tests Test and automate your deployments with a staging server Apply tests to the third-party plugins you integrate into your site Run tests automatically by using a Continuous Integration environment Use TDD to build a REST API with a front-end Ajax interface

xUnit Test Patterns Gerard Meszaros 2007-05-21 Automated testing is a cornerstone of agile development. An effective testing strategy will deliver new functionality more aggressively, accelerate user feedback, and improve quality. However, for many developers, creating effective automated tests is a unique and unfamiliar challenge. xUnit Test Patterns is the definitive guide to writing automated tests using xUnit, the most popular unit testing framework in use today. Agile coach and test automation expert Gerard Meszaros describes 68 proven patterns for making tests easier to write, understand, and maintain. He then shows you how to make them more robust and repeatable—and far more cost-effective. Loaded with information, this book feels like three books in one. The first part is a detailed tutorial on test automation that covers everything from test strategy to in-depth test coding. The second part, a catalog of 18 frequently encountered "test smells," provides trouble-shooting guidelines to help you determine the root cause of problems and the most applicable patterns. The third part contains detailed descriptions of each pattern, including refactoring instructions illustrated by extensive code samples in multiple programming languages.

Practical Test-Driven Development Using C# 7 John Callaway 2018-02-12 Develop applications for the real world with a thorough software testing approach Key Features Develop a thorough understanding of TDD and how it can help you develop simpler applications with no defects using C# and JavaScript Adapt to the mindset of writing tests before code by incorporating business goals, code manageability, and other factors Make all your software units and modules pass tests by analyzing failed tests and refactoring code as and when required Book Description Test-Driven Development (TDD) is a methodology that helps you to write as little as code as possible to satisfy software requirements, and ensures that what you've written does what it's supposed to do. If you're looking for a practical resource on Test-Driven Development this is the book for you. You've found a practical end-to-end guide that will help you implement Test-Driven Techniques for your software development projects. You will learn from industry standard patterns and practices, and shift from a conventional approach to a modern and efficient software testing approach in C# and JavaScript. This book starts with the basics of TDD and the components of a simple unit test. Then we look at setting up the testing framework so that you can easily run your tests in your development environment. You will then see the importance of defining and testing boundaries, abstracting away third-party code (including the .NET Framework), and working with different types of test double such as spies, mocks, and fakes. Moving on, you will learn how to think like a TDD developer when it comes to application development. Next, you'll focus on writing tests for new/changing requirements and covering newly discovered bugs, along with how to test JavaScript applications and perform integration testing. You'll also learn how to identify code that is inherently un-testable, and identify some of the major problems with legacy applications that weren't written with testability in mind. By the end of the book, you'll have all the TDD skills you'll need and you'll be able to re-enter the world as a TDD expert! What you will learn The core concepts of TDD Testing in action with a real-world case study in C# and JavaScript using React Writing proper Unit Tests and testable code for your application Using different types of test double such as stubs, spies, and mocks Growing an application guided by tests Exploring new developments on a green-field application Mitigating the problems associated with writing tests for legacy applications Modifying a legacy application to make it testable Who this book is for This book is for software developers with a basic knowledge of Test Driven Development (TDD) who want a thorough understanding of how TDD can benefit them and the applications they produce. The examples in this book are in C#, and you will need a basic understanding of C# to work through these examples.

Unit Testing Principles, Practices, and Patterns Vladimir Khorikov 2020-01-06 Radically improve your testing practice and software quality with new testing styles, good patterns, and reliable automation. Key Features A practical and results-driven approach to unit testing Refine your existing unit tests by implementing modern best practices Learn the four pillars of a good unit test Safely automate your testing process to save time and money Spot which tests need refactoring, and which need to be deleted entirely Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Great testing practices maximize your project quality and delivery speed by identifying bad code early in the development process. Wrong tests will break your code, multiply bugs, and increase time and costs. You owe it to yourself—and your projects—to learn how to do excellent unit testing. Unit Testing Principles, Patterns and Practices teaches you to design and write tests that target key areas of your code including the domain model. In this clearly written guide, you learn to develop professional-quality tests and test suites and integrate testing throughout the application life cycle. As you adopt a testing mindset, you'll be amazed at how better tests cause you to write better code. What You Will Learn Universal guidelines to assess any unit test Testing to identify and avoid anti-patterns Refactoring tests along with the production code Using integration tests to verify the whole system This Book Is Written For For readers who know the basics of unit testing. Examples are written in C# and can easily be applied to any language. About the Author Vladimir Khorikov is an author, blogger, and Microsoft MVP. He has mentored numerous teams on the ins and outs of unit testing. Table of Contents: PART 1 THE BIGGER PICTURE 1 | The goal of unit testing 2 | What is a unit test? 3 | The anatomy of a unit test PART 2 MAKING YOUR TESTS WORK FOR YOU 4 | The four pillars of a good unit test 5 | Mocks and test fragility 6 | Styles of unit testing 7 | Refactoring toward valuable unit tests PART 3 INTEGRATION TESTING 8 | Why integration testing? 9 | Mocking best practices 10 | Testing the database PART 4 UNIT TESTING ANTI-PATTERNS 11 | Unit testing anti-patterns *Test Driven: Practical Test Driven Development And Acceptance Tdd For Java Developers* Lasse Koskela 2008-01-01 Test Driven brings under one cover practical TDD techniques distilled from several years of community experience. With examples in Java and the Java EE environment, it explores both the techniques and the mindset of TDD and ATDD. *Test-Driven Development with React* Juntao Qiu 2021-09-27 Learn to use accelerated test-driven development (TDD) to build a React application from scratch. This book explains how your React components will be integrated, and how to refactor code to make it more concise and flexible. With TDD you can develop a robust test suite to catch bugs, and develop modular, flexible code. Applying your

understanding of how HTML, CSS, and JavaScript work in the browser you'll build a web application called Bookish using TDD and mainstream React stack technologies such as React, React-router, and Redux. Using higher code quality you'll be able to write executable documentation using Cucumber. This is just one of many essentials in maintaining a practical TDD workflow in your daily workload. Test-Driven Development with React highlights best practices and design patterns that will enable you to write more maintainable and reusable React components. What You'll Learn Manage your application's state using Redux Employ professional techniques for backend services Use Cypress as an end-to-end testing framework Utilize React-testing-library for unit and integration tests Who This Book Is For Ideal for web application developers who want to learn how to write high quality code using Test-Driven Development.

Learning Test-Driven Development Saleem Siddiqui 2021-10-12 Your code is a testament to your skills as a developer. No matter what language you use, code should be clean, elegant, and uncluttered. By using test-driven development (TDD), you'll write code that's easy to understand, retains its elegance, and works for months, even years, to come. With this indispensable guide, you'll learn how to use TDD with three different languages: Go, JavaScript, and Python. Author Saleem Siddiqui shows you how to tackle domain complexity using a unit test-driven approach. TDD partitions requirements into small, implementable features, enabling you to solve problems irrespective of the languages and frameworks you use. With Learning Test-Driven Development at your side, you'll learn how to incorporate TDD into your regular coding practice. This book helps you: Use TDD's divide-and-conquer approach to tame domain complexity Understand how TDD works across languages, testing frameworks, and domain concepts Learn how TDD enables continuous integration Support refactoring and redesign with TDD Learn how to write a simple and effective unit test harness in JavaScript Set up a continuous integration environment with the unit tests produced during TDD Write clean, uncluttered code using TDD in Go, JavaScript, and Python

Test-driven Development Kent Beck 2003 Write clean code that works with the help of this groundbreaking software method. Example-driven teaching is the basis of Beck's step-by-step instruction that will have readers using TDD to further their projects.

Impact Evaluation in Practice, Second Edition Paul J. Gertler 2016-09-12 The second edition of the Impact Evaluation in Practice handbook is a comprehensive and accessible introduction to impact evaluation for policy makers and development practitioners. First published in 2011, it has been used widely across the development and academic communities. The book incorporates real-world examples to present practical guidelines for designing and implementing impact evaluations. Readers will gain an understanding of impact evaluations and the best ways to use them to design evidence-based policies and programs. The updated version covers the newest techniques for evaluating programs and includes state-of-the-art implementation advice, as well as an expanded set of examples and case studies that draw on recent development challenges. It also includes new material on research ethics and partnerships to conduct impact evaluation. The handbook is divided into four sections: Part One discusses what to evaluate and why; Part Two presents the main impact evaluation methods; Part Three addresses how to manage impact evaluations; Part Four reviews impact evaluation sampling and data collection. Case studies illustrate different applications of impact evaluations. The book links to complementary instructional material available online, including an applied case as well as questions and answers. The updated second edition will be a valuable resource for the international development community, universities, and policy makers looking to build better evidence around what works in development.

ATDD by Example Markus Gartner 2012 With Acceptance Test-Driven Development (ATDD), business customers, testers, and developers can collaborate to produce testable requirements that help them build higher quality software more rapidly. However, ATDD is still widely misunderstood by many practitioners. ATDD by Example is the first practical, entry-level, hands-on guide to implementing and successfully applying it. ATDD pioneer Markus Gartner walks readers step by step through deriving the right systems from business users, and then implementing fully automated, functional tests that accurately reflect business requirements, are intelligible to stakeholders, and promote more effective development. Through two end-to-end case studies, Gartner demonstrates how ATDD can be applied using diverse frameworks and languages. Each case study is accompanied by an extensive set of artifacts, including test automation classes, step definitions, and full sample implementations. These realistic examples illuminate ATDD's fundamental principles, show how ATDD fits into the broader development process, highlight tips from Gartner's extensive experience, and identify crucial pitfalls to avoid. Readers will learn to Master the thought processes associated with successful ATDD implementation Use ATDD with Cucumber to describe software in ways businesspeople can understand Test web pages using ATDD tools Bring ATDD to Java with the FitNesse wiki-based acceptance test framework Use examples more effectively in Behavior-Driven Development (BDD) Specify software collaboratively through innovative workshops Implement more user-friendly and collaborative test automation Test more cleanly, listen to test results, and refactor tests for greater value If you're a tester, analyst, developer, or project manager, this book offers a concrete foundation for achieving real benefits with ATDD now—and it will help you reap even more value as you gain experience.

The Art of Agile Development James Shore 2008-01-21 For those considering Extreme Programming, this book provides no-nonsense advice on agile planning, development, delivery, and management taken from the authors' many years of experience. While plenty of books address the what and why of agile development, very few offer the information users can apply directly.

Scala Test-Driven Development Gaurav Sood 2016-10-27 Build robust Scala applications by implementing the fundamentals of test-driven development in your workflow About This Book Get a deep understanding of various testing concepts such as test-driven development (TDD) and BDD Efficient usage of the built-in Scala features such as ScalaTest, specs2, and Scala check Change your approach towards problem solving by thinking about the boundaries of the problem and its definition rather than focusing on the solution Who This Book Is For This book is for Scala developers who are looking to write better quality and easily maintainable code. No previous knowledge of TDD/BDD is required. What You Will Learn Understand the basics of TDD and its significance Refactoring tests to build APIs in order to increase test coverage How to leverage the inbuilt Scala testing modules like ScalaTest, specs2 and Scala Check Writing test fixtures and apply the concepts of BDD How to divide tests to run at different points in continuous delivery cycle Benefits of refactoring and how it affects the final quality of code produced Understanding of SBT based build environment and how to use it to run tests The fundamentals of mocking and stubbing in Scala and how to use it efficiently In Detail Test-driven development (TDD) produces high-quality applications in less time than is possible with traditional methods. Due to the systematic nature of TDD, the application is tested in individual units as well as cumulatively, right from the design stage, to ensure optimum performance and reduced debugging costs. This step-by-step guide shows you how to use the principles of TDD and built-in Scala testing modules to write clean and fully tested Scala code and give your workflow the change it needs to let you create better applications than ever before. After an introduction to TDD, you will learn the basics of ScalaTest, one of the most flexible and most popular testing tools around for Scala, by building your first fully test-driven application. Building on from that you will learn about the ScalaTest API and how to refactor code to produce high-quality applications. We'll teach you the concepts of BDD (Behavior-driven development) and you'll see how to add functional tests to the existing suite of tests. You'll be introduced to the concepts of Mocks and Stubs and will learn to increase test coverage using properties. With a concluding chapter on miscellaneous tools, this book will enable you to write better quality code that is easily maintainable and watch your apps change for the better. Style and approach This step-by-step guide explains the significance of TDD in Scala through various practical examples. You will learn to write a complete test-driven application throughout the course of the book.

Crafting Test-Driven Software with Python Alessandro Molina 2021-02-18 Get to grips with essential concepts and step-by-step explanations to apply TDD practices to your Python projects while keeping your test suite under control Key FeaturesBuild robust Python applications using TDD and BDD methodologiesTest Python web applications using WebTest and web frameworksLeverage PyTest to implement stringent testing mechanisms to ensure fault-tolerant applicationsBook Description Test-driven development (TDD) is a set of best practices that helps developers to build more scalable software and is used to increase the robustness of software by using automatic tests. This book shows you how to apply TDD practices effectively in Python projects. You'll begin by learning about built-in unit tests and Mocks before covering rich frameworks like PyTest and web-based libraries such as WebTest and Robot Framework, discovering how Python allows you to embrace all modern testing practices with ease. Moving on, you'll find out how to design tests and balance them with new feature development and learn how to create a complete test suite with PyTest. The book helps you adopt a hands-on approach to implementing TDD and associated methodologies that will have you up and running and make you more productive in no time. With the help of step-by-step explanations of essential concepts and practical examples, you'll explore automatic tests and TDD best practices and get to grips with the methodologies and tools available in Python for creating effective and robust applications. By the end of this Python book, you will be able to write reliable test suites in Python to ensure the long-term resilience of your application using the range of libraries offered by Python for testing and development. What you will learnFind out how tests can make your life easier as a developer and discover related best practicesExplore PyTest, the most widespread testing framework for PythonGet to grips with the most common PyTest plugins, including coverage, flaky, xdist, and pickedWrite functional tests for WSGI web applications with WebTestRun end-to-end tests for web applications using Robot FrameworkUnderstand what test-driven development means and why it is importantDiscover how to use the range of tools available in PythonBuild reliable and robust applicationsWho this book is for This book is for Python developers looking to get started with test-driven development and developers who want to learn about the testing tools available in Python. Developers who want to create web applications with Python and plan to implement TDD methodology with PyTest will find this book useful. Basic knowledge of Python programming is required.

Agile Conversations Douglas Squirrel 2020-05-12 A successful digital transformation must start with a conversational transformation. Today, software organizations are transforming the way work gets done through practices like Agile, Lean, and DevOps. But as commonly implemented as these methods are, many transformations still fail, largely because the organization misses a critical step: transforming their culture and the way people communicate. Agile Conversations brings a practical, step-by-step guide to using the human power of conversation to build effective, high-performing teams to achieve truly Agile results. Consultants Douglas Squirrel and Jeffrey Fredrick show readers how to utilize the Five Conversations to help teams build trust, alleviate fear, answer the “whys,” define commitments, and hold everyone accountable. These five conversations give teams everything they need to reach peak performance, and they are exactly what's missing from too many teams today. Stop focusing on processes and practices that leave your organization stuck with culture-less rituals. Instead, unleash the unique human power of conversation.

Human Aspects of Software Engineering James E. Tomayko 2004

Unit Testing in Java Johannes Link 2003-06-03 Software testing is indispensable and is one of the most discussed topics in software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk.

Planning Extreme Programming Kent Beck 2001 A guide to XP leads the developer, project manager, and team leader through the software development planning process, offering real world examples and tips for reacting to changing environments quickly and efficiently.

Implementation Patterns Kent Beck 2007-10-23 Software Expert Kent Beck Presents a Catalog of Patterns Infinitely Useful for Everyday Programming Great code doesn't just function: it clearly and consistently communicates your intentions, allowing other programmers to understand your code, rely on it, and modify it with confidence. But great code doesn't just happen. It is the outcome of hundreds of small but critical decisions programmers make every single day. Now, legendary software innovator Kent Beck—known worldwide for creating Extreme Programming and pioneering software patterns and test-driven development—focuses on these critical decisions, unearthing powerful “implementation patterns” for writing programs that are simpler, clearer, better organized, and more cost effective. Beck collects 77 patterns for handling everyday programming tasks and writing more readable code. This new collection of patterns addresses many aspects of development, including class, state, behavior, method, collections, frameworks, and more. He uses diagrams, stories, examples, and essays to engage the reader as he illuminates the patterns. You'll find proven solutions for handling everything from naming variables to checking exceptions.

Growing Object-Oriented Software, Guided by Tests Steve Freeman 2009-10-12 Test-Driven Development (TDD) is now an established technique for delivering better software faster. TDD is based on a simple idea: Write tests for your code before you write the code itself. However, this “simple” idea takes skill and judgment to do well. Now there's a practical guide to TDD that takes you beyond the basic concepts. Drawing on a decade of experience building real-world systems, two TDD pioneers show how to let tests guide your development and “grow” software that is coherent, reliable, and maintainable. Steve Freeman and Nat Pryce describe the processes they use, the design principles they strive to achieve, and some of the tools that help them get the job done. Through an extended worked example, you'll learn how TDD works at multiple levels, using tests to drive the features and the object-oriented structure of the code, and using Mock Objects to discover and then describe relationships between objects. Along the way, the book systematically addresses challenges that development teams encounter with TDD—from integrating TDD into your processes to testing your most difficult features. Coverage includes Implementing TDD effectively: getting started, and maintaining your momentum throughout the project Creating cleaner, more expressive, more sustainable code Using tests to stay relentlessly focused on sustaining quality Understanding how TDD, Mock Objects, and Object-Oriented Design come together in the context of a real software development project Using Mock Objects to guide object-oriented designs Succeeding where TDD is difficult: managing complex test data, and testing persistence and concurrency

Extreme Programming Explained Kent Beck 2004-11-17 Accountability. Transparency. Responsibility. These are not words that are often applied to software development. In this completely revised introduction to Extreme Programming (XP), Kent Beck describes how to improve your software development by integrating these highly desirable concepts into your daily development process. The first edition of Extreme Programming Explained is a classic. It won awards for its then-radical ideas for improving small-team development, such as having developers write automated tests for their own code and having the whole team plan weekly. Much has changed in five years. This completely rewritten second edition expands the scope of XP to teams of any size by suggesting a program of continuous improvement based on: Five core values consistent with excellence in software development Eleven principles for putting those values into action Thirteen primary and eleven corollary practices to help you push development past its current business and technical limitations Whether you have a small team that is already closely aligned with your customers or a large team in a gigantic or multinational organization, you will find in these pages a wealth of ideas to challenge, inspire, and encourage you and your team members to substantially improve your software development. You will discover how to: Involve the whole team—XP style Increase technical collaboration through pair programming and continuous integration Reduce defects through developer testing Align business and technical decisions through weekly and quarterly planning Improve teamwork by setting up an informative, shared workspace You will also find many other concrete ideas for improvement, all based on a philosophy that emphasizes simultaneously increasing the humanity and effectiveness of software development. Every team can improve. Every team can begin improving today. Improvement is possible—beyond what we can currently imagine. Extreme

Programming Explained, Second Edition, offers ideas to fuel your improvement for years to come.

JUnit Recipes Scott Stirling 2004-06-30 When testing becomes a developer's habit good things tend to happen—good productivity, good code, and good job satisfaction. If you want some of that, there's no better way to start your testing habit, nor to continue feeding it, than with"" JUnit Recipes, "" In this book you will find one hundred and thirty-seven solutions to a range of problems, from simple to complex, selected for you by an experienced developer and master tester. Each recipe follows the same organization giving you the problem and its background before discussing your options in solving it. JUnit - the unit testing framework for Java - is simple to use, but some code can be tricky to test. When you're facing such code you will be glad to have this book. It is a how-to reference full of practical advice on all issues of testing, from how to name your test case classes to how to test complicated J2EE applications. Its valuable advice includes side matters that can have a big payoff, like how to organize your test data or how to manage expensive test resources. What's Inside: - Getting started with JUnit - Recipes for: servlets JSPs EJBs Database code much more - Difficult-to-test designs, and how to fix them - How testing saves time - Choose a JUnit extension: HTMLUnit XMLUnit ServletUnit EasyMock and more!

Modern C++ Programming with Test-Driven Development Jeff Langr 2013-10-10 If you program in C++ you've been neglected. Test-driven development (TDD) is a modern software development practice that can dramatically reduce the number of defects in systems, produce more maintainable code, and give you the confidence to change your software to meet changing needs. But C++ programmers have been ignored by those promoting TDD—until now. In this book, Jeff Langr gives you hands-on lessons in the challenges and rewards of doing TDD in C++. Modern C++ Programming With Test-Driven Development, the only comprehensive treatment on TDD in C++ provides you with everything you need to know about TDD, and the challenges and benefits of implementing it in your C++ systems. Its many detailed code examples take you step-by-step from TDD basics to advanced concepts. As a veteran C++ programmer, you're already writing high-quality code, and you work hard to maintain code quality. It doesn't have to be that hard. In this book, you'll learn: how to use TDD to improve legacy C++ systems how to identify and deal with troublesome system dependencies how to do dependency injection, which is particularly tricky in C++ how to use testing tools for C++ that aid TDD new C++11 features that facilitate TDD As you grow in TDD mastery, you'll discover how to keep a massive C++ system from becoming a design mess over time, as well as particular C++ trouble spots to avoid. You'll find out how to prevent your tests from being a maintenance burden and how to think in TDD without giving up your hard-won C++ skills. Finally, you'll see how to grow and sustain TDD in your team. Whether you're a complete unit-testing novice or an experienced tester, this book will lead you to mastery of test-driven development in C++. What You Need A C++ compiler running under Windows or Linux, preferably one that supports C++11. Examples presented in the book were built under gcc 4.7.2. Google Mock 1.6 (downloadable for free; it contains Google Test as well) or an alternate C++ unit testing tool. Most examples in the book are written for Google Mock, but it isn't difficult to translate them to your tool of choice. A good programmer's editor or IDE. cmake, preferably. Of course, you can use your own preferred make too. CMakeLists.txt files are provided for each project. Examples provided were built using cmake version 2.8.9. Various freely-available third-party libraries are used as the basis for examples in the book. These include: cURL JsonCpp Boost (filesystem, date_time/gregorian, algorithm, assign) Several examples use the boost headers/libraries. Only one example uses cURL and JsonCpp.