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Praise for Modeling for Insight "Most books on modeling are either too theoretical or too focused on the mechanics of programming. Powell and Batt's emphasis on using simple spreadsheet models to gain business insight (which is, after all, the name of the game) is what makes this book stand head and shoulders above the rest. This clear and practical book deserves a place on the shelf of every business analyst."
—Jonathan Koomey, PhD, Lawrence Berkeley National Laboratory and Stanford University, author of Turning Numbers into Knowledge: Mastering the Art of Problem Solving

Most business analysts are familiar with using spreadsheets to organize data and build routine models. However, analysts often struggle when faced with examining new and ill-structured problems. Modeling for Insight is a one-of-a-kind guide to building effective spreadsheet models and using them to generate insights. With its hands-on approach, this book provides readers with an effective modeling process and specific modeling tools to become a master modeler. The authors provide a structured approach to problem-solving using four main steps: frame the problem, diagram the problem, build a model, and generate insights. Extensive examples, graduated in difficulty, help readers to internalize this modeling process, while also demonstrating the application of important modeling tools, including: Influence diagrams Spreadsheet engineering Parameterization Sensitivity analysis Strategy analysis Iterative modeling

The real-world examples found in the book are drawn from a wide range of fields such as financial planning, insurance, pharmaceuticals, advertising, and manufacturing. Each chapter concludes with a discussion on how to use the insights drawn from these models to create an effective business presentation. Microsoft Office Excel and PowerPoint are used throughout the book, along with the add-ins Premium Solver, Crystal Ball, and Sensitivity Toolkit. Detailed appendices guide readers through the use of these software packages, and the spreadsheet models discussed in the book are available to download via the book's related Web site. Modeling for Insight is an ideal book for courses in engineering, operations research, and management science at the upper-undergraduate and graduate levels. It is also a valuable resource for consultants and business analysts who often use spreadsheets to better understand complex problems.

Work with data like a pro using this guide that breaks down how to organize, apply, and most importantly, understand what you are analyzing in order to become a true data ninja. From the stock market to genomics laboratories, census figures to marketing email blasts, we are awash with data. But as anyone who has ever opened up a spreadsheet packed with seemingly infinite lines of data knows, numbers aren't enough: we need to know how to make those numbers talk. In The Model Thinker, social scientist Scott E. Page shows us the mathematical, statistical, and computational models—from linear regression to random walks and far beyond—that can turn anyone into a genius. At the core of the book is Page's "many-model paradigm," which shows the reader how to apply multiple models to organize the data, leading to wiser choices, more accurate predictions, and more robust designs. The Model Thinker provides a toolkit for business people, students, scientists, pollsters, and bloggers to make them better, clearer thinkers, able to leverage data and information to their advantage.

Data models are the main medium used to communicate data requirements from business to IT, and within IT from analysts, modelers, and architects, to database designers and developers. Therefore it's essential to get the data model right. But how do you determine right?

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That's where the Data Model Scorecard® comes in. The Data Model Scorecard is a data model quality scoring tool containing ten categories aimed at improving the quality of your organization's data models. Many of my consulting assignments are dedicated to applying the Data Model Scorecard to my client's data models – I will show you how to apply the Scorecard in this book. This book, written for people who build, use, or review data models, contains the Data Model Scorecard template and an explanation along with many examples of each of the ten Scorecard categories. There are three sections: In Section I, Data Modeling and the Need for Validation, receive a short data modeling primer in Chapter 1, understand why it is important to get the data model right in Chapter 2, and learn about the Data Model Scorecard in Chapter 3. In Section II, Data Model Scorecard Categories, we will explain each of the ten categories of the Data Model Scorecard. There are ten chapters in this section, each chapter dedicated to a specific Scorecard category: · Chapter 4: Correctness · Chapter 5: Completeness · Chapter 6: Scheme · Chapter 7: Structure · Chapter 8: Abstraction · Chapter 9: Standards · Chapter 10: Readability · Chapter 11: Definitions · Chapter 12: Consistency · Chapter 13: Data In Section III, Validating Data Models, we will prepare for the model review (Chapter 14), cover tips to help during the model review (Chapter 15), and then review a data model based upon an actual project (Chapter 16).

Blender is a powerful and free 3D graphics tool used by artists and designers worldwide. But even experienced designers can find it challenging to turn an idea into a polished piece. For those who have struggled to create professional-quality projects in Blender, author Ben Simonds offers this peek inside his studio. You'll learn how to create 3D models as you explore the creative process that he uses to model three example projects: a muscular bat creature, a futuristic robotic spider, and ancient temple ruins. Along the way, you'll master the Blender interface and learn how to create and refine your own models. You'll also learn how to: –Work with reference and concept art in Blender and GIMP to make starting projects easier –Block in models with simple geometry and build up more complex forms –Use Blender's powerful sculpting brushes to create detailed organic models –Paint textures with Blender and GIMP and map them onto your 3D artwork –Light, render, and composite your models to create striking images Each chapter walks you through a piece of the modeling process and offers detailed explanations of the tools and concepts used. Filled with full-color artwork and real-world tips, Blender Master Class gives you the foundation you need to create your own stunning masterpieces. Covers Blender 2.6x

What value does semantic data modeling offer? As an information architect or data science professional, let's say you have an abundance of the right data and the technology to extract business gold—but you still fail. The reason? Bad data semantics. In this practical and comprehensive field guide, author Panos Alexopoulos takes you on an eye-opening journey through semantic data modeling as applied in the real world. You'll learn how to master this craft to increase the usability and value of your data and applications. You'll also explore the pitfalls to avoid and dilemmas to overcome for building high-quality and valuable semantic representations of data. Understand the fundamental concepts, phenomena, and processes related to semantic data modeling Examine the quirks and challenges of semantic data modeling and learn how to effectively leverage the available frameworks and tools Avoid mistakes and bad practices that can undermine your efforts to create good data models Learn about model development dilemmas, including representation, expressiveness and content, development, and governance Organize and execute semantic data initiatives in your organization, tackling technical, strategic, and organizational challenges

Shows readers how to perform complex data analysis, create reports with the data analysis expressions language, and add hierarchies to data models to enable faster browsing.

This is the 2nd edition of the training manual for the Data Modelling Master Class that Steve Hoberman teaches onsite and through public

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classes. The Master Class is a complete course on requirements gathering and data modelling, containing four days of practical techniques for producing solid relational and dimensional data models. After learning the styles and steps in gathering and modelling requirements, you will apply a best practices approach to building and validating data models through the Data Model Scorecard(r). You will know not just how to build a data model, but also how to build a data model well. Challenging exercises and workshops will reinforce the material and enable you to apply these techniques in your current projects. By the end of the course, you will know how To: Read a data model of any size and complexity; Validate any data model with the Data Model Scorecard(r); Build relational and dimensional subject area, logical, and physical data models; Use abstraction; Gather requirements; Leverage a series of templates for capturing requirements; Write clear, complete, and correct definitions; Explain the critical factors that must be in place for a successful enterprise data model.

Data Modeling Theory and Practice is for practitioners and academics who have learned the conventions and rules of data modeling and are looking for a deeper understanding of the discipline. The coverage of theory includes a detailed review of the extensive literature on data modeling and logical database design, referencing nearly 500 publications, with a strong focus on their relevance to practice. The practice component incorporates the largest-ever study of data modeling practitioners, involving over 450 participants in interviews, surveys and data modeling tasks. The results challenge many long-held assumptions about data modeling and will be of interest to academics and practitioners alike. Graeme Simsion brings to the book the practical perspective and intellectual clarity that have made his Data Modeling Essentials a classic in the field. He begins with a question about the nature of data modeling (design or description), and uses it to illuminate such issues as the definition of data modeling, its philosophical underpinnings, inputs and deliverables, the necessary behaviors and skills, the role of creativity, product diversity, quality measures, personal styles, and the differences between experts and novices. Data Modeling Theory and Practice is essential reading for anyone involved in data modeling practice, research, or teaching.

“What we think, we become.” – Proverb For decades, leadership was reserved for a select few that others thought had been gifted with innate talent and the exclusive right to lead. Today, we know better. Everyone leads – in their personal life, their workplaces, and in their communities. Every person has the potential to be a better leader, to positively influence others, and to make a difference in our world. LeadAbility examines the realities of leading in our modern world. Discover the Six Leadership Choices and their LeadAbilities that you can develop to become A Better Leader – at home and at work. So, the question has changed. We are no longer asking “Are you a leader?” but rather “What kind of leader will you be?” The choice is yours.

Data Modeling Made Simple with PowerDesigner will provide the business or IT professional with a practical working knowledge of data modeling concepts and best practices, and how to apply these principles with PowerDesigner. You'll build many PowerDesigner data models along the way, increasing your skills first with the fundamentals and later with more advanced feature of PowerDesigner. This book combines real-world experience and best practices to help you master the following ten objectives: This book has ten key objectives for you, the reader: 1. You will know when a data model is needed and which PowerDesigner models are the most appropriate for each situation 2. You will be able to read

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a data model of any size and complexity with the same confidence as reading a book 3. You will know when to apply and how to make use of all the key features of PowerDesigner 4. You will be able to build, step-by-step in PowerDesigner, a pyramid of linked data models, including a conceptual data model, a fully normalized relational data model, a physical data model, and an easily navigable dimensional model 5. You will be able to apply techniques such as indexing, transforms, and forward engineering to turn a logical data model into an efficient physical design 6. You will improve data governance and modeling consistency within your organization by leveraging features such as PowerDesigner's reference models, Glossary, domains, and model comparison and model mapping techniques 7. You will know how to utilize dependencies and traceability links to assess the impact of change 8. You will know how to integrate your PowerDesigner models with externally-managed files, including the import and export of data using Excel and Requirements documents 9. You will know where you can take advantage of the entire PowerDesigner model set, to increase the success rate of corporate-wide initiatives such as business intelligence and enterprise resource planning (ERP) 10. You will understand the key differentiators between PowerDesigner and other data modeling tools you may have used before This book contains seven sections: Section I introduces data modeling, along with its purpose and variations. Section II explains all of the components on a data model including entities, data elements, relationships, and keys. Also included is a discussion of the importance of quality names and definitions for your objects. Section III explains the important role of data modeling tools, the key features required of any data modeling tool, and an introduction to the essential features of PowerDesigner. It also describes how to create and manage data modeling objects in PowerDesigner. Section IV introduces the Data Model Pyramid, then dives into the relational and dimensional subject areas, logical, and physical data models, and describes how PowerDesigner supports these models and the connections between them. Section V guides you through the creation of your own Data Model Pyramid. Section VI focuses on additional PowerDesigner features (some of which have already been introduced) that make life easier for data modelers. Learn how to get information into and out of PowerDesigner, and improve the quality of your data models with a cross-reference of key PowerDesigner features with the Data Model Scorecard®. Section VII discusses PowerDesigner topics beyond data modeling, including the XML physical model and the other types of model available in PowerDesigner.

This is the ninth edition of the training manual for the Data Modeling Master Class that Steve Hoberman teaches onsite and through public classes. This text can be purchased prior to attending the Master Class, the latest course schedule and detailed description can be found on Steve Hoberman's website, stevehoberman.com.

This is the fifth edition of the training manual for the Data Modeling Master Class that Steve Hoberman teaches onsite

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and through public classes. This text can be purchased prior to attending the Master Class, the latest course schedule and detailed description can be found on Steve Hoberman's website, stevehoberman.com. The Master Class is a complete data modeling course, containing three days of practical techniques for producing conceptual, logical, and physical relational and dimensional and NoSQL data models. After learning the styles and steps in capturing and modeling requirements, you will apply a best practices approach to building and validating data models through the Data Model Scorecard®. You will know not just how to build a data model, but how to build a data model well. Two case studies and many exercises reinforce the material and will enable you to apply these techniques in your current projects.

A practical guide to effective business model testing 7 out of 10 new products fail to deliver on expectations. Testing Business Ideas aims to reverse that statistic. In the tradition of Alex Osterwalder's global bestseller Business Model Generation, this practical guide contains a library of hands-on techniques for rapidly testing new business ideas. Testing Business Ideas explains how systematically testing business ideas dramatically reduces the risk and increases the likelihood of success for any new venture or business project. It builds on the internationally popular Business Model Canvas and Value Proposition Canvas by integrating Assumptions Mapping and other powerful lean startup-style experiments. Testing Business Ideas uses an engaging 4-color format to:

- Increase the success of any venture and decrease the risk of wasting time, money, and resources on bad ideas
- Close the knowledge gap between strategy and experimentation/validation
- Identify and test your key business assumptions with the Business Model Canvas and Value Proposition Canvas

A definitive field guide to business model testing, this book features practical tips for making major decisions that are not based on intuition and guesses. Testing Business Ideas shows leaders how to encourage an experimentation mindset within their organization and make experimentation a continuous, repeatable process.

The book Kafka Streams - Real-time Stream Processing helps you understand the stream processing in general and apply that skill to Kafka streams programming. This book is focusing mainly on the new generation of the Kafka Streams library available in the Apache Kafka 2.x. The primary focus of this book is on Kafka Streams. However, the book also touches on the other Apache Kafka capabilities and concepts that are necessary to grasp the Kafka Streams programming. Who should read this book? Kafka Streams: Real-time Stream Processing is written for software engineers willing to develop a stream processing application using Kafka Streams library. I am also writing this book for data architects and data engineers who are responsible for designing and building the organization's data-centric infrastructure. Another group of people is the managers and architects who do not directly work with Kafka implementation, but they work with the people who implement Kafka Streams at the ground level. What should you already know? This book assumes that the reader is familiar with the basics of Java programming language. The source

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code and examples in this book are using Java 8, and I will be using Java 8 lambda syntax, so experience with lambda will be helpful. Kafka Streams is a library that runs on Kafka. Having a good fundamental knowledge of Kafka is essential to get the most out of Kafka Streams. I will touch base on the mandatory Kafka concepts for those who are new to Kafka. The book also assumes that you have some familiarity and experience in running and working on the Linux operating system.

This is the second edition of Wil van der Aalst's seminal book on process mining, which now discusses the field also in the broader context of data science and big data approaches. It includes several additions and updates, e.g. on inductive mining techniques, the notion of alignments, a considerably expanded section on software tools and a completely new chapter of process mining in the large. It is self-contained, while at the same time covering the entire process-mining spectrum from process discovery to predictive analytics. After a general introduction to data science and process mining in Part I, Part II provides the basics of business process modeling and data mining necessary to understand the remainder of the book. Next, Part III focuses on process discovery as the most important process mining task, while Part IV moves beyond discovering the control flow of processes, highlighting conformance checking, and organizational and time perspectives. Part V offers a guide to successfully applying process mining in practice, including an introduction to the widely used open-source tool ProM and several commercial products. Lastly, Part VI takes a step back, reflecting on the material presented and the key open challenges. Overall, this book provides a comprehensive overview of the state of the art in process mining. It is intended for business process analysts, business consultants, process managers, graduate students, and BPM researchers.

Data modeling is one of the most critical phases in the database application development process, but also the phase most likely to fail. A master data modeler must come into any organization, understand its data requirements, and skillfully model the data for applications that most effectively serve organizational needs. Mastering Data Modeling is a complete guide to becoming a successful data modeler. Featuring a requirements-driven approach, this book clearly explains fundamental concepts, introduces a user-oriented data modeling notation, and describes a rigorous, step-by-step process for collecting, modeling, and documenting the kinds of data that users need. Assuming no prior knowledge, Mastering Data Modeling sets forth several fundamental problems of data modeling, such as reconciling the software developer's demand for rigor with the users' equally valid need to speak their own (sometimes vague) natural language. In addition, it describes the good habits that help you respond to these fundamental problems. With these good habits in mind, the book describes the Logical Data Structure (LDS) notation and the process of controlled evolution by which you can create low-cost, user-approved data models that resist premature obsolescence. Also included is an encyclopedic

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analysis of all data shapes that you will encounter. Most notably, the book describes The Flow, a loosely scripted process by which you and the users gradually but continuously improve an LDS until it faithfully represents the information needs. Essential implementation and technology issues are also covered. You will learn about such vital topics as: The fundamental problems of data modeling The good habits that help a data modeler be effective and economical LDS notation, which encourages these good habits How to read an LDS aloud--in declarative English sentences How to write a well-formed (syntactically correct) LDS How to get users to name the parts of an LDS with words from their own business vocabulary How to visualize data for an LDS A catalog of LDS shapes that recur throughout all data models The Flow--the template for your conversations with users How to document an LDS for users, data modelers, and technologists How to map an LDS to a relational schema How LDS differs from other notations and why "Story interludes" appear throughout the book, illustrating real-world successes of the LDS notation and controlled evolution process. Numerous exercises help you master critical skills. In addition, two detailed, annotated sample conversations with users show you the process of controlled evolution in action.

Creating a precise diagram of business terms within your projects is a simple yet powerful communication tool for project managers, data governance professionals, and business analysts. Similar to how the Rosetta Stone provided a communication tool across multiple languages, the Rosedata Stone provides a communication tool across business languages. The Rosedata Stone, called the Business Terms Model (BTM) or the Conceptual Data Model, displays the achievement of a Common Business Language of terms for a particular business initiative. With more and more data being created and used, combined with intense competition, strict regulations, and rapid-spread social media, the financial, liability, and credibility stakes have never been higher and therefore the need for a Common Business Language has never been greater. Appreciate the power of the BTM and apply the steps to build a BTM over the book's five chapters: Challenges. Explore how a Common Business Language is more important than ever with technologies like the Cloud and NoSQL, and Regulations such as the GDPR. Needs. Identify scope and plan precise, minimal visuals that will capture the Common Business Language. Solution. Meet the BTM and its components, along with the variations of relational and dimensional BTMs. Experience how several data modeling tools display the BTM, including CaseTalk, ER/Studio, erwin DM, and Hackolade. Construction. Build operational (relational) and analytics (dimensional) BTMs for a bakery chain. Practice. Reinforce BTM concepts and build BTMs for two of your own initiatives alongside a real example. This is the eighth edition of the training manual for the Data Modeling Master Class that Steve Hoberman teaches onsite and through public classes. This text can be purchased prior to attending the Master Class, the latest course schedule and detailed description can be found on Steve Hoberman's website, stevehoberman.com. The Master Class is a

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complete data modeling course, containing three days of practical techniques for producing conceptual, logical, and physical relational and dimensional and NoSQL data models. After learning the styles and steps in capturing and modeling requirements, you will apply a best practices approach to building and validating data models through the Data Model Scorecard(R). You will know not just how to build a data model, but how to build a data model well. Three case studies and many exercises reinforce the material and will enable you to apply these techniques in your current projects.

Top 5 Objectives

- Determine how and when to use each data modeling component
- Apply techniques to elicit data requirements as a prerequisite to building a data model
- Build relational and dimensional conceptual, logical, and physical data models
- Incorporate supportability and extensibility features into the data model
- Assess the quality of a data model.

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Top 10 Objectives

1. Explain data modeling components and identify them on your projects by following a question-driven approach
2. Demonstrate reading a data model of any size and complexity with the same confidence as reading a book
3. Validate any data model with key "settings" (scope, abstraction, timeframe, function, and format) as well as through the Data Model Scorecard(R)
4. Apply requirements elicitation techniques including interviewing, artifact analysis, prototyping, and job shadowing
5. Build relational and dimensional conceptual and logical data models, and know the tradeoffs on the physical side for both RDBMS and NoSQL solutions
6. Practice finding structural soundness issues and standards violations
7. Recognize when to use abstraction and where patterns and industry data models can give us a great head start
8. Use a series of templates for capturing and validating requirements, and for data profiling
9. Evaluate definitions for clarity, completeness, and correctness
10. Leverage the Data Vault and enterprise data model for a successful enterprise architecture.

Renowned DAX experts Alberto Ferrari and Marco Russo teach you how to design data models for maximum efficiency and effectiveness. How can you use Excel and Power BI to gain real insights into your information? As you examine your data, how do you write a formula that provides the numbers you need? The answers to both of these questions lie with

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the data model. This book introduces the basic techniques for shaping data models in Excel and Power BI. It's meant for readers who are new to data modeling as well as for experienced data modelers looking for tips from the experts. If you want to use Power BI or Excel to analyze data, the many real-world examples in this book will help you look at your reports in a different way—like experienced data modelers do. As you'll soon see, with the right data model, the correct answer is always a simple one! By reading this book, you will:

- Gain an understanding of the basics of data modeling, including tables, relationships, and keys
- Familiarize yourself with star schemas, snowflakes, and common modeling techniques
- Learn the importance of granularity
- Discover how to use multiple fact tables, like sales and purchases, in a complex data model
- Manage calendar-related calculations by using date tables
- Track historical attributes, like previous addresses of customers or manager assignments
- Use snapshots to compute quantity on hand
- Work with multiple currencies in the most efficient way
- Analyze events that have durations, including overlapping durations

Learn what data model you need to answer your specific business questions About This Book

- For Excel and Power BI users who want to exploit the full power of their favorite tools
- For BI professionals seeking new ideas for modeling data

What value does data modeling contribute to an organization, and how can that value be increased? Starting with analogies from Native American storytelling traditions and drawing on his experiences as an officer in Toastmasters (the International public speaking organization), Larry shows us how we can be data modeling Shamans. We can use data models to bring people together to solve business problems, reengineer inefficient business processes, forge agreements on data meanings, create new business opportunities, and promote data quality and reuse. Drawing from a host of disciplines, from storytelling to cognitive behavioral therapy, from landscaping to Human-Centered Design, from business process reengineering to domain-driven development, from Agile to object-oriented design, Larry weaves all these threads together into a compelling narrative of using data to get us successfully from where we are now to where we want to be! If you're a data professional, the bad news is that change is inevitable. But the good news is that change is not only possible, but fun! Larry's book shows how to navigate the shoals of business and technology change, from Agile development to NoSQL databases to Domain-Driven Development to microservices to cloud computing. The Journey starts here.

Did you ever try getting Businesspeople and IT to agree on the project scope for a new application? Or try getting Marketing and Sales to agree on the target audience? Or try bringing new team members up to speed on the hundreds of tables in your data warehouse — without them dozing off? Whether you are a businessperson or an IT professional, you can be the hero in each of these and hundreds of other scenarios by building a High-Level Data Model. The High-Level Data Model is a simplified view of our complex environment. It can be a powerful communication tool of the key concepts

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within our application development projects, business intelligence and master data management programs, and all enterprise and industry initiatives. Learn about the High-Level Data Model and master the techniques for building one, including a comprehensive ten-step approach and hands-on exercises to help you practice topics on your own. In this book, we review data modeling basics and explain why the core concepts stored in a high-level data model can have significant business impact on an organization. We explain the technical notation used for a data model and walk through some simple examples of building a high-level data model. We also describe how data models relate to other key initiatives you may have heard of or may be implementing in your organization. This book contains best practices for implementing a high-level data model, along with some easy-to-use templates and guidelines for a step-by-step approach. Each step will be illustrated using many examples based on actual projects we have worked on. Names have been changed to protect the innocent, but the pain points and lessons have been preserved. One example spans an entire chapter and will allow you to practice building a high-level data model from beginning to end, and then compare your results to ours. Building a high-level data model following the ten step approach you'll read about is a great way to ensure you will retain the new skills you learn in this book. As is the case in many disciplines, using the right tool for the right job is critical to the overall success of your high-level data model implementation. To help you in your tool selection process, there are several chapters dedicated to discussing what to look for in a high-level data modeling tool and a framework for choosing a data modeling tool, in general. This book concludes with a real-world case study that shows how an international energy company successfully used a high-level data model to streamline their information management practices and increase communication throughout the organization—between both businesspeople and IT. Data modeling is one of the under-exploited, and potentially very valuable, business capabilities that are often hidden away in an organization's Information Technology department. Data Modeling for the Business highlights both the resulting damage to business value, and the opportunities to make things better. As an easy-to follow and comprehensive guide on the 'why' and 'how' of data modeling, it also reminds us that a successful strategy for exploiting IT depends at least as much on the information as the technology. Chris Potts, Corporate IT Strategist and Author of *fruITion: Creating the Ultimate Corporate Strategy for Information Technology* One of the most critical systems issues is aligning business with IT and fulfilling business needs using data models. The authors of *Data Modeling for the Business* do a masterful job at simply and clearly describing the art of using data models to communicate with business representatives and meet business needs. The book provides many valuable tools, analogies, and step-by-step methods for effective data modeling and is an important contribution in bridging the much needed connection between data modeling and realizing business requirements. Len Silverston, author of *The Data Model Resource Book* series

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Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With `fastai`, the first library to provide a consistent interface to the most frequently used deep learning applications. Authors Jeremy Howard and Sylvain Gugger, the creators of `fastai`, show you how to train a model on a wide range of tasks using `fastai` and PyTorch. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes. Train models in computer vision, natural language processing, tabular data, and collaborative filtering Learn the latest deep learning techniques that matter most in practice Improve accuracy, speed, and reliability by understanding how deep learning models work Discover how to turn your models into web applications Implement deep learning algorithms from scratch Consider the ethical implications of your work Gain insight from the foreword by PyTorch cofounder, Soumith Chintala Unlock the meaning of your data with QlikView The Qlik platform was designed to provide a fast and easy data analytics tool, and QlikView Your Business is your detailed, full-color, step-by-step guide to understanding Qlikview's powerful features and techniques so you can quickly start unlocking your data's potential. This expert author team brings real-world insight together with practical business analytics, so you can approach, explore, and solve business intelligence problems using the robust Qlik toolset and clearly communicate your results to stakeholders using powerful visualization features in QlikView and Qlik Sense. This book starts at the basic level and dives deep into the most advanced QlikView techniques, delivering tangible value and knowledge to new users and experienced developers alike. As an added benefit, every topic presented is enhanced with tips, tricks, and insightful recommendations that the authors accumulated through years of developing QlikView analytics. This is the book for you: If you are a developer whose job is to load transactional data into Qlik BI environment, and who needs to understand both the basics and the most advanced techniques of Qlik data modelling and scripting If you are a data analyst whose job is to develop actionable and insightful QlikView visualizations to share within your organization If you are a project manager or business person, who wants to get a better understanding of the Qlik Business Intelligence platform and its capabilities What You Will Learn: The book covers three common business scenarios - Sales, Profitability, and Inventory Analysis. Each scenario contains four chapters, covering the four main disciplines of business analytics: Business Case, Data Modeling, Scripting, and Visualizations. The material is organized by increasing levels of complexity. Following our comprehensive tutorial, you will learn simple and advanced QlikView and Qlik Sense concepts, including the following: Data Modeling: Transforming Transactional data into Dimensional models Building a Star Schema Linking multiple fact tables using Link Tables Combing multiple tables into a single fact able using Concatenated Fact models Managing slowly changing dimensions

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Advanced date handling, using the As of Date table Calculating running balances Basic and Advanced Scripting: How to use the Data Load Script language for implementing data modeling techniques How to build and use the QVD data layer Building a multi-tier data architectures Using variables, loops, subroutines, and other script control statements Advanced scripting techniques for a variety of ETL solutions Building Insightful Visualizations in QlikView: Introduction into QlikView sheet objects — List Boxes, Text Objects, Charts, and more Designing insightful Dashboards in QlikView Using advanced calculation techniques, such as Set Analysis and Advanced Aggregation Using variables for What-If Analysis, as well as using variables for storing calculations, colors, and selection filters Advanced visualization techniques - normalized and non-normalized Mekko charts, Waterfall charts, Whale Tail charts, and more Building Insightful Visualizations in Qlik Sense: Introducing Qlik Sense - how it is different from QlikView and what is similar? Creating Sense sheet objects Building and using the Library of Master Items Exploring Qlik Sense unique features — Storytelling, Geo Mapping, and using Extensions Whether you are just starting out with QlikView or are ready to dive deeper, QlikView Your Business is your comprehensive guide to sharpening your QlikView skills and unleashing the power of QlikView in your organization. Data Modeling Master Class Training Manual Steve Hoberman's Best Practices Approach to Understanding and Applying Fundamentals Through Advanced Modeling Techniques

Data Modeling Made Simple with CA ERwin Data Modeler r8 will provide the business or IT professional with a practical working knowledge of data modeling concepts and best practices, and how to apply these principles with CA ERwin Data Modeler r8. You'll build many CA ERwin data models along the way, mastering first the fundamentals and later in the book the more advanced features of CA ERwin Data Modeler. This book combines real-world experience and best practices with down to earth advice, humor, and even cartoons to help you master the following ten objectives: 1. Understand the basics of data modeling and relational theory, and how to apply these skills using CA ERwin Data Modeler 2. Read a data model of any size and complexity with the same confidence as reading a book 3. Understand the difference between conceptual, logical, and physical models, and how to effectively build these models using CA ERwin's Data Modelers Design Layer Architecture 4. Apply techniques to turn a logical data model into an efficient physical design and vice-versa through forward and reverse engineering, for both 'top down' and bottom-up design 5. Learn how to create reusable domains, naming standards, UDPs, and model templates in CA ERwin Data Modeler to reduce modeling time, improve data quality, and increase enterprise consistency 6. Share data model information with various audiences using model formatting and layout techniques, reporting, and metadata exchange 7. Use the new workspace customization features in CA ERwin Data Modeler r8 to create a workflow suited to your own individual needs 8. Leverage the new Bulk Editing features in CA ERwin Data Modeler r8 for mass metadata updates, as well as import/export with Microsoft Excel 9. Compare and merge model changes using CA ERwin Data Modelers Complete Compare features 10. Optimize the organization and layout of your data models through the use of Subject Areas, Diagrams, Display Themes, and more Section I provides an overview of data modeling: what it is, and why it is needed. The basic features of CA ERwin Data Modeler are introduced with a simple, easy-to-follow example. Section II introduces the basic building blocks of a data model, including entities, relationships, keys, and more. How-to examples using CA ERwin Data Modeler are provided for each of these building blocks, as well as 'real world' scenarios for context. Section III covers

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the creation of reusable standards, and their importance in the organization. From standard data modeling constructs such as domains to CA ERwin-specific features such as UDPs, this section covers step-by-step examples of how to create these standards in CA ERwin Data Modeling, from creation, to template building, to sharing standards with end users through reporting and queries. Section IV discusses conceptual, logical, and physical data models, and provides a comprehensive case study using CA ERwin Data Modeler to show the interrelationships between these models using CA ERwin's Design Layer Architecture. Real world examples are provided from requirements gathering, to working with business sponsors, to the hands-on nitty-gritty details of building conceptual, logical, and physical data models with CA ERwin Data Modeler r8. From the Foreword by Tom Bilcze, President, CA Technologies Modeling Global User Community: Data Modeling Made Simple with CA ERwin Data Modeler r8 is an excellent resource for the ERwin community. The data modeling community is a diverse collection of data professionals with many perspectives of data modeling and different levels of skill and experience. Steve Hoberman and Donna Burbank guide newbie modelers through the basics of data modeling and CA ERwin r8. Through the liberal use of illustrations, the inexperienced data modeler is graphically walked through the components of data models and how to create them in CA ERwin r8. As an experienced data modeler, Steve and Donna give me a handbook for effectively using the new and enhanced features of this release to bring my art form to life. The book delves into advanced modeling topics and techniques by continuing the liberal use of illustrations. It speaks to the importance of a defined data modeling architecture with soundly modeled data to assist the enterprise in understanding of the value of data. It guides me in applying the finishing touches to my data designs.

Build a working knowledge of data modeling concepts and best practices, along with how to apply these principles with ER/Studio. This second edition includes numerous updates and new sections including an overview of ER/Studio's support for agile development, as well as a description of some of ER/Studio's newer features for NoSQL, such as MongoDB's containment structure.

Data Resource Data provides the complete detailed data resource model for understanding and managing data as a critical resource of the organization.

The IDEAL conference boast a vibrant and successful history dating back to 1998, th and this edition marked the 10 anniversary, an important milestone demonstrating the increasing popularity and high quality of the IDEAL conferences. Burgos, the capital of medieval Spain and a lively city today, was a perfect venue to celebrate such an occasion. The conference has become a unique, established and broad interdisciplinary forum for researchers and practitioners in many fields to interact with each other and with leading academics and industries in the areas of machine learning, information processing, data mining, knowledge management, bio-informatics, neuro-informatics, bio-inspired models, agents and distributed systems, and hybrid systems. IDEAL 2009 received over 200 submissions. After a rigorous peer-review process, the International Programme Committee accepted 100 high-quality papers to be included in the conference proceedings. In this 10th edition, a special emphasis was given on the organization of workshops and special sessions. Two workshops were organized under the framework of IDEAL 2009: MIR Day 2009 and Nature-Inspired Models for Industrial Applications. Five special sessions were organized by leading researchers in their fields on various topics such as Soft Computing Techniques in Data Mining, Recent Advances on Swarm-Based Computing, Intelligent Computational Techniques in Medical Image Processing, Advances on Ensemble Learning and Information Fusion, and Financial and Business Engineering (Modelling and Applications).

Manufacturing managers are still focused on the short-term tactical issues related to their business. Strategic issues tend to receive less attention. However, manufacturing can play an important strategic role. Learning From World Class Manufacturers 2012 helps managers

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consider the strategic roles their operations can play and provides guidance as to what actions can be taken.

"This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience"--

Defining a set of guiding principles for data management and describing how these principles can be applied within data management functional areas; Providing a functional framework for the implementation of enterprise data management practices; including widely adopted practices, methods and techniques, functions, roles, deliverables and metrics; Establishing a common vocabulary for data management concepts and serving as the basis for best practices for data management professionals. DAMA-DMBOK2 provides data management and IT professionals, executives, knowledge workers, educators, and researchers with a framework to manage their data and mature their information infrastructure, based on these principles: Data is an asset with unique properties; The value of data can be and should be expressed in economic terms; Managing data means managing the quality of data; It takes metadata to manage data; It takes planning to manage data; Data management is cross-functional and requires a range of skills and expertise; Data management requires an enterprise perspective; Data management must account for a range of perspectives; Data management is data lifecycle management; Different types of data have different lifecycle requirements; Managing data includes managing risks associated with data; Data management requirements must drive information technology decisions; Effective data management requires leadership commitment.

Learn the basics of analytics on big data using Java, machine learning and other big data tools About This Book Acquire real-world set of tools for building enterprise level data science applications Surpasses the barrier of other languages in data science and learn create useful object-oriented codes Extensive use of Java compliant big data tools like apache spark, Hadoop, etc. Who This Book Is For This book is for Java developers who are looking to perform data analysis in production environment. Those who wish to implement data analysis in their Big data applications will find this book helpful. What You Will Learn Start from simple analytic tasks on big data Get into more complex tasks with predictive analytics on big data using machine learning Learn real time analytic tasks Understand the concepts with examples and case studies Prepare and refine data for analysis Create charts in order to understand the data See various real-world datasets In Detail This book covers case studies such as sentiment analysis on a tweet dataset, recommendations on a movielens dataset, customer segmentation on an ecommerce dataset, and graph analysis on actual flights dataset. This book is an end-to-end guide to implement analytics on big data with Java. Java is the de facto language for major big data environments, including Hadoop. This book will teach you how to perform analytics on big data with production-friendly Java. This book basically divided into two sections. The first part is an introduction that will help the readers get acquainted with big data environments, whereas the second part will contain a hardcore discussion on all the concepts in analytics on big data. It will take you from data analysis and data visualization to the core concepts and advantages of machine learning, real-life usage of regression and classification using Naive Bayes, a deep discussion on the concepts of clustering, and a review of simple neural networks on big data using deepLearning4j or plain Java Spark code. This

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book is a must-have book for Java developers who want to start learning big data analytics and want to use it in the real world. Style and approach The approach of book is to deliver practical learning modules in manageable content. Each chapter is a self-contained unit of a concept in big data analytics. Book will step by step builds the competency in the area of big data analytics. Examples using real world case studies to give ideas of real applications and how to use the techniques mentioned. The examples and case studies will be shown using both theory and code.

Data Modeling Made Simple will provide the business or IT professional with a practical working knowledge of data modeling concepts and best practices. This book is written in a conversational style that encourages you to read it from start to finish and master these ten objectives: Know when a data model is needed and which type of data model is most effective for each situation Read a data model of any size and complexity with the same confidence as reading a book Build a fully normalized relational data model, as well as an easily navigatable dimensional model Apply techniques to turn a logical data model into an efficient physical design Leverage several templates to make requirements gathering more efficient and accurate Explain all ten categories of the Data Model Scorecard Learn strategies to improve your working relationships with others Appreciate the impact unstructured data has, and will have, on our data modeling deliverables Learn basic UML concepts Put data modeling in context with XML, metadata, and agile development Book Review by Johnny Gay In this book review, I address each section in the book and provide what I found most valuable as a data modeler. I compare, as I go, how the book's structure eases the new data modeler into the subject much like an instructor might ease a beginning swimmer into the pool. This book begins like a Dan Brown novel. It even starts out with the protagonist, our favorite data modeler, lost on a dark road somewhere in France. In this case, what saves him isn't a cipher, but of all things, something that's very much like a data model in the form of a map! The author deems they are both way-finding tools. The chapters in the book are divided into 5 sections. The chapters in each section end with an exercise and a list of the key points covered to reinforce what you've learned. I find myself comparing the teaching structure of the book to the way most of us learn to swim.

A surprisingly simple way for students to master any subject--based on one of the world's most popular online courses and the bestselling book A Mind for Numbers A Mind for Numbers and its wildly popular online companion course "Learning How to Learn" have empowered more than two million learners of all ages from around the world to master subjects that they once struggled with. Fans often wish they'd discovered these learning strategies earlier and ask how they can help their kids master these skills as well. Now in this new book for kids and teens, the authors reveal how to make the most of time spent studying. We all have the tools to learn what might not seem to come naturally to us at first--the secret is to understand how the brain works so we can unlock its power. This book explains: • Why sometimes

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letting your mind wander is an important part of the learning process • How to avoid "rut think" in order to think outside the box • Why having a poor memory can be a good thing • The value of metaphors in developing understanding • A simple, yet powerful, way to stop procrastinating Filled with illustrations, application questions, and exercises, this book makes learning easy and fun.

The real power for security applications will come from the synergy of academic and commercial research focusing on the specific issue of security. Special constraints apply to this domain, which are not always taken into consideration by academic research, but are critical for successful security applications: large volumes: techniques must be able to handle huge amounts of data and perform 'on-line' computation; scalability: algorithms must have processing times that scale well with ever growing volumes; automation: the analysis process must be automated so that information extraction can 'run on its own'; ease of use: everyday citizens should be able to extract and assess the necessary information; and robustness: systems must be able to cope with data of poor quality (missing or erroneous data). The NATO Advanced Study Institute (ASI) on Mining Massive Data Sets for Security, held in Italy, September 2007, brought together around ninety participants to discuss these issues. This publication includes the most important contributions, but can of course not entirely reflect the lively interactions which allowed the participants to exchange their views and share their experience. The bridge between academic methods and industrial constraints is systematically discussed throughout. This volume will thus serve as a reference book for anyone interested in understanding the techniques for handling very large data sets and how to apply them in conjunction for solving security issues.

Congratulations! You completed the MongoDB application within the given tight timeframe and there is a party to celebrate your application's release into production. Although people are congratulating you at the celebration, you are feeling some uneasiness inside. To complete the project on time required making a lot of assumptions about the data, such as what terms meant and how calculations are derived. In addition, the poor documentation about the application will be of limited use to the support team, and not investigating all of the inherent rules in the data may eventually lead to poorly-performing structures in the not-so-distant future. Now, what if you had a time machine and could go back and read this book. You would learn that even NoSQL databases like MongoDB require some level of data modeling. Data modeling is the process of learning about the data, and regardless of technology, this process must be performed for a successful application. You would learn the value of conceptual, logical, and physical data modeling and how each stage increases our knowledge of the data and reduces assumptions and poor design decisions. Read this book to learn how to do data modeling for MongoDB applications, and accomplish these five objectives: Understand how data modeling contributes to the process of learning about the data, and is, therefore, a required technique, even when the resulting

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database is not relational. That is, NoSQL does not mean NoDataModeling! Know how NoSQL databases differ from traditional relational databases, and where MongoDB fits. Explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts, and learn the basics of adding, querying, updating, and deleting data in MongoDB. Practice a streamlined, template-driven approach to performing conceptual, logical, and physical data modeling. Recognize that data modeling does not always have to lead to traditional data models! Distinguish top-down from bottom-up development approaches and complete a top-down case study which ties all of the modeling techniques together. This book is written for anyone who is working with, or will be working with MongoDB, including business analysts, data modelers, database administrators, developers, project managers, and data scientists. There are three sections: In Section I, Getting Started, we will reveal the power of data modeling and the tight connections to data models that exist when designing any type of database (Chapter 1), compare NoSQL with traditional relational databases and where MongoDB fits (Chapter 2), explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts (Chapter 3), and explain the basics of adding, querying, updating, and deleting data in MongoDB (Chapter 4). In Section II, Levels of Granularity, we cover Conceptual Data Modeling (Chapter 5), Logical Data Modeling (Chapter 6), and Physical Data Modeling (Chapter 7). Notice the “ing” at the end of each of these chapters. We focus on the process of building each of these models, which is where we gain essential business knowledge. In Section III, Case Study, we will explain both top down and bottom up development approaches and go through a top down case study where we start with business requirements and end with the MongoDB database. This case study will tie together all of the techniques in the previous seven chapters. Nike Senior Data Architect Ryan Smith wrote the foreword. Key points are included at the end of each chapter as a way to reinforce concepts. In addition, this book is loaded with hands-on exercises, along with their answers provided in Appendix A. Appendix B contains all of the book’s references and Appendix C contains a glossary of the terms used throughout the text.

La Guía del Conocimiento para la Gestión de Datos (DAMA-DMBOK2) presenta una visión exhaustiva de los desafíos, complejidades y valor de la gestión eficaz de los datos. Las organizaciones de hoy en día reconocen que la gestión de los datos es fundamental para su éxito. Reconocen que los datos tienen valor y quieren aprovechar ese valor. A medida que nuestra capacidad y deseo de crear y explotar datos ha aumentado, también lo ha hecho la necesidad de prácticas de gestión de datos confiables. La segunda edición de la Guía del Conocimiento para la Gestión de Datos de DAMA International actualiza y aumenta el exitoso DMBOK1. DMBOK2, un libro de referencia accesible y autorizado, escrito por los principales pensadores en el campo y ampliamente revisado por los miembros de DAMA, reúne materiales que

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describen exhaustivamente los desafíos de la gestión de datos y cómo cumplirlos mediante:

- Definir un conjunto de principios rectores para la gestión de datos y describir cómo se pueden aplicar estos principios dentro de las áreas funcionales de gestión de datos.
- Proporcionar un marco de referencia funcional para la implementación de prácticas de gestión de datos empresariales, incluyendo prácticas, métodos y técnicas ampliamente adoptadas, funciones, roles, entregables y métricas.
- Establecer un vocabulario común para los conceptos de gestión de datos y servir de base para las mejores prácticas para los profesionales de la gestión de datos.

DAMA-DMBOK2 proporciona a los profesionales de la gestión de datos y de TI, a ejecutivos, trabajadores del conocimiento, educadores e investigadores un marco para gestionar sus datos y madurar su infraestructura de información, basado en estos principios:

- Los datos son un activo con propiedades únicas
- El valor de los datos puede y debe expresarse en términos económicos
- Gestionar los datos significa gestionar la calidad de los datos
- Se necesitan metadatos para gestionar los datos
- Se necesita planificación para gestionar los datos
- La gestión de datos es multifuncional y requiere una amplia gama de habilidades y experiencia
- La gestión de datos requiere una perspectiva empresarial
- La gestión de datos debe tener en cuenta una serie de perspectivas
- La gestión de datos es la gestión del ciclo de vida de los datos
- Los diferentes tipos de datos tienen diferentes requerimientos de ciclo de vida
- La gestión de datos incluye la gestión de los riesgos asociados a los datos
- Los requerimientos de gestión de datos deben impulsar las decisiones sobre tecnología de la información
- Una gestión eficaz de los datos requiere un compromiso de liderazgo

Los capítulos incluyen:

- Gestión de Datos
- Manejo Ético de los Datos
- Gobierno de Datos
- Arquitectura de Datos
- Modelado y Diseño de Datos
- Almacenamiento de Datos y Operaciones
- Seguridad de Datos
- Integración de Datos e Interoperabilidad
- Gestión de Documentos y Contenidos
- Datos Maestros y de Referencia
- Data Warehousing e Inteligencia de Negocios
- Gestión de Metadatos
- Calidad de Datos
- Big Data y Ciencia de Datos
- Evaluación de la Madurez de la Gestión de Datos
- Organización de la Gestión de Datos y Expectativas de Roles
- Gestión de Datos y Gestión del Cambio Organizacional

La estandarización de las disciplinas de gestión de datos ayudará a los profesionales de la gestión de datos a desempeñarse de forma más eficaz y consistente. También permitirá a los líderes de la organización reconocer el valor y las contribuciones de las actividades de gestión de datos.

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