

Data Modeling Essentials Third Edition

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Financial Modeling - Simon Benninga 2000
Too often, finance courses stop short of making a connection between textbook finance and the problems of real-world business. "Financial

Modeling" bridges this gap between theory and practice by providing a nuts-and-bolts guide to solving common financial problems with spreadsheets. The CD-ROM contains Excel*

worksheets and solutions to end-of-chapter exercises. 634 illustrations.

Data Modeling Essentials - Graeme Simson
2004-12-03

Data Modeling Essentials, Third Edition, covers the basics of data modeling while focusing on developing a facility in techniques, rather than a simple familiarization with "the rules". In order to enable students to apply the basics of data modeling to real models, the book addresses the realities of developing systems in real-world situations by assessing the merits of a variety of possible solutions as well as using language and diagramming methods that represent industry practice. This revised edition has been given significantly expanded coverage and reorganized for greater reader comprehension even as it retains its distinctive hallmarks of readability and usefulness. Beginning with the basics, the book provides a thorough grounding in theory before guiding the reader through the various stages of applied data modeling and database

design. Later chapters address advanced subjects, including business rules, data warehousing, enterprise-wide modeling and data management. It includes an entirely new section discussing the development of logical and physical modeling, along with new material describing a powerful technique for model verification. It also provides an excellent resource for additional lectures and exercises. This text is the ideal reference for data modelers, data architects, database designers, DBAs, and systems analysts, as well as undergraduate and graduate-level students looking for a real-world perspective. Thorough coverage of the fundamentals and relevant theory. Recognition and support for the creative side of the process. Expanded coverage of applied data modeling includes new chapters on logical and physical database design. New material describing a powerful technique for model verification. Unique coverage of the practical and human aspects of modeling, such

as working with business specialists, managing change, and resolving conflict.

The Enterprise Data Model - Andy Graham
2012-05

Wouldn't it be great to understand all the data in your organisation? Just imagine being able to define, agree and manage information concepts that impact on business strategy? Then imagine that these information concepts can be linked to the physical database attributes that ultimately are used to create them. That's what this book is about. It focuses on the data model as the foundation for achieving this understanding. This book provides a framework for the enterprise data model, the business reasons behind it and the differences between conceptual, logical and physical data models. The question of how, and why, to use a data model artifact as part of the data governance toolkit for the whole enterprise is also addressed. This publication is not an in-depth manual on how to model data for a new database

system or your next design project. It instead focuses at a level above these implementation projects and addresses the issues that organisations typical struggling with such as: * How do we provide a framework within which we can manage our data assets? * How do we develop applications that adhere to a set of data standards; without creating a nightmare of administration and governance that is both unwieldy and unusable? * How can we get business value from our enterprise data? Chapter headings are: * Chapter 1 - Introduction * Chapter 2 - Information and Data * Chapter 3 - Pillars of Value * Chapter 4 - An Overview of Data Modelling * Chapter 5 - Data Architecture * Chapter 6 - The Enterprise Data Model * Chapter 7 - Build the Model one Project at a Time * Chapter 8 - Master Data * Chapter 9 - Data Governance * Chapter 10 - The Enterprise Data Framework This 2nd edition revises the original text to add extra details around key areas such as the enterprise data model

framework and the pillars of value. It also improves the quality of the original text.

Data Modeling Theory and Practice - Graeme Simsion 2007-03-01

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.

Data Modeling Essential The Ultimate Reference(2Ed - Graeme C.Simsion 2002-12-14
Data Modeling Essentials, Third Edition provides expert tutelage for data modelers, business analysts and systems designers at all levels. Beginning with the basics, this book provides a thorough grounding in theory before guiding the reader through the various stages of applied data modeling and database design. Later chapters address advanced subjects, including

business rules, data warehousing, enterprise-wide modeling and data management. The third edition of this popular book retains its distinctive hallmarks of readability and usefulness, but has been given significantly expanded coverage and reorganized for greater reader comprehension. Authored by two leaders in the field, *Data Modeling Essentials, Third Edition* is the ideal reference for professionals and students looking for a real-world perspective.

- Overview of Data Modeling
- What is Data Modeling
- Basic Normalization
- The Entity-Relationship Approach
- Subtypes and Supertypes
- Putting it all together
- Organizing the Data Modeling Task
- Advanced Data Modeling
- More About Relationships and Foreign Keys
- Advanced Normalization
- Primary Keys and Identity
- Attributes
- Time Dependent Data
- Modeling Business Rules
- Modeling for Data Warehouses and Data Marts
- Corporate Data Modeling

BIM Handbook - Rafael Sacks 2018-07-03
Discover BIM: A better way to build better

buildings Building Information Modeling (BIM) offers a novel approach to design, construction, and facility management in which a digital representation of the building product and process is used to facilitate the exchange and interoperability of information in digital format. BIM is beginning to change the way buildings look, the way they function, and the ways in which they are designed and built. The *BIM Handbook, Third Edition* provides an in-depth understanding of BIM technologies, the business and organizational issues associated with its implementation, and the profound advantages that effective use of BIM can provide to all members of a project team. Updates to this edition include: Information on the ways in which professionals should use BIM to gain maximum value New topics such as collaborative working, national and major construction clients, BIM standards and guides A discussion on how various professional roles have expanded through the widespread use and the new

avenues of BIM practices and services A wealth of new case studies that clearly illustrate exactly how BIM is applied in a wide variety of conditions Painting a colorful and thorough picture of the state of the art in building information modeling, the BIM Handbook, Third Edition guides readers to successful implementations, helping them to avoid needless frustration and costs and take full advantage of this paradigm-shifting approach to construct better buildings that consume fewer materials and require less time, labor, and capital resources.

Information Modeling and Relational

Databases - Terry Halpin 2001-04-17

Information Modeling and Relational Databases provides an introduction to ORM (Object Role Modeling)-and much more. In fact, it's the only book to go beyond introductory coverage and provide all of the in-depth instruction you need to transform knowledge from domain experts into a sound database design. Inside, ORM

authority Terry Halpin blends conceptual information with practical instruction that will let you begin using ORM effectively as soon as possible. Supported by examples, exercises, and useful background information, his step-by-step approach teaches you to develop a natural-language-based ORM model and then, where needed, abstract ER and UML models from it. This book will quickly make you proficient in the modeling technique that is proving vital to the development of accurate and efficient databases that best meet real business objectives. The most in-depth coverage of Object Role Modeling available anywhere-written by a pioneer in the development of ORM. Provides additional coverage of Entity Relationship (ER) modeling and the Unified Modeling Language-all from an ORM perspective. Intended for anyone with a stake in the accuracy and efficacy of databases: systems analysts, information modelers, database designers and administrators, instructors, managers, and programmers.

Explains and illustrates required concepts from mathematics and set theory.

Case Method - Richard Barker 1992

This definitive book is endorsed by ORACLE, one of the leading database corporations today, and explains key techniques for defining the functionality of a business and subsequent high-quality integrated systems.

Python Data Science Essentials - Alberto

Boschetti 2016-10-28

Become an efficient data science practitioner by understanding Python's key concepts About This Book Quickly get familiar with data science using Python 3.5 Save time (and effort) with all the essential tools explained Create effective data science projects and avoid common pitfalls with the help of examples and hints dictated by experience Who This Book Is For If you are an aspiring data scientist and you have at least a working knowledge of data analysis and Python, this book will get you started in data science. Data analysts with experience of R or MATLAB

will also find the book to be a comprehensive reference to enhance their data manipulation and machine learning skills. What You Will Learn Set up your data science toolbox using a Python scientific environment on Windows, Mac, and Linux Get data ready for your data science project Manipulate, fix, and explore data in order to solve data science problems Set up an experimental pipeline to test your data science hypotheses Choose the most effective and scalable learning algorithm for your data science tasks Optimize your machine learning models to get the best performance Explore and cluster graphs, taking advantage of interconnections and links in your data In Detail Fully expanded and upgraded, the second edition of Python Data Science Essentials takes you through all you need to know to succeed in data science using Python. Get modern insight into the core of Python data, including the latest versions of Jupyter notebooks, NumPy, pandas and scikit-learn. Look beyond the fundamentals with

beautiful data visualizations with Seaborn and ggplot, web development with Bottle, and even the new frontiers of deep learning with Theano and TensorFlow. Dive into building your essential Python 3.5 data science toolbox, using a single-source approach that will allow to work with Python 2.7 as well. Get to grips fast with data munging and preprocessing, and all the techniques you need to load, analyse, and process your data. Finally, get a complete overview of principal machine learning algorithms, graph analysis techniques, and all the visualization and deployment instruments that make it easier to present your results to an audience of both data science experts and business users. Style and approach The book is structured as a data science project. You will always benefit from clear code and simplified examples to help you understand the underlying mechanics and real-world datasets.

Data Modeling for Quality - Graham Witt

2021-01-19

This book is for all data modelers, data architects, and database designers—be they novices who want to learn what’s involved in data modeling, or experienced modelers who want to brush up their skills. A novice will not only gain an overview of data modeling, they will also learn how to follow the data modeling process, including the activities required for each step. The experienced practitioner will discover (or rediscover) techniques to ensure that data models accurately reflect business requirements. This book describes rigorous yet easily implemented approaches to:

- modeling of business information requirements for review by business stakeholders before development of the logical data model
- normalizing data, based on simple questions rather than the formal definitions which many modelers find intimidating
- naming and defining concepts and attributes
- modeling of time-variant data
- documenting business rules governing both the real world and data
- data modeling in an Agile

project · managing data model change in any type of project · transforming a business information model to a logical data model against which developers can code · implementing the logical data model in a traditional relational DBMS, an SQL:2003-compliant DBMS, an object-relational DBMS, or in XML. Part 1 describes business information models in-depth, including: · the importance of modeling business information requirements before embarking on a logical data model · business concepts (entity classes) · attributes of business concepts · attribute classes as an alternative to DBMS data types · relationships between business concepts · time-variant data · generalization and specialization of business concepts · naming and defining the components of the business information model · business rules governing data, including a distinction between real-world rules and data rules. Part 2 journeys from requirements to a working data resource, covering: · sourcing data requirements

· developing the business information model · communicating it to business stakeholders for review, both as diagrams and verbally · managing data model change · transforming the business information model into a logical data model of stored data for implementation in a relational or object-relational DBMS · attribute value representation and data constraints (important but often overlooked) · modeling data vault, dimensional and XML data.

Splunk 7 Essentials, Third Edition - J-P Contreras 2018-03-29

Transform machine data into powerful analytical intelligence using Splunk Key Features Analyze and visualize machine data to step into the world of Splunk! Leverage the exceptional analysis and visualization capabilities to make informed decisions for your business This easy-to-follow, practical book can be used by anyone - even if you have never managed data before Book Description Splunk is a search, reporting, and analytics software platform for machine data,

which has an ever-growing market adoption rate. More organizations than ever are adopting Splunk to make informed decisions in areas such as IT operations, information security, and the Internet of Things. The first two chapters of the book will get you started with a simple Splunk installation and set up of a sample machine data generator, called Eventgen. After this, you will learn to create various reports, dashboards, and alerts. You will also explore Splunk's Pivot functionality to model data for business users. You will then have the opportunity to test-drive Splunk's powerful HTTP Event Collector. After covering the core Splunk functionality, you'll be provided with some real-world best practices for using Splunk, and information on how to build upon what you've learned in this book. Throughout the book, there will be additional comments and best practice recommendations from a member of the SplunkTrust Community, called "Tips from the Fez". What you will learn Install and configure Splunk for personal use

Store event data in Splunk indexes, classify events into sources, and add data fields Learn essential Splunk Search Processing Language commands and best practices Create powerful real-time or user-input dashboards Be proactive by implementing alerts and scheduled reports Tips from the Fez: best practices using Splunk features and add-ons Understand security and deployment considerations for taking Splunk to an organizational level Who this book is for This book is for the beginners who want to get well versed in the services offered by Splunk 7. If you want to be a data/business analyst or want to be a system administrator, this book is what you want. No prior knowledge of Splunk is required. **Data Warehousing** - Paul Westerman 2001 What is data warehousing? -- Project planning -- Business exploration -- Business case study and ROI analysis -- Organizational integration -- Technology -- Database maintenance -- Technical construction of the Wal-Mart data warehouse -- Postimplementation of the Wal-Mart data

warehouse -- Store operations sample analyses --
Merchandising sample analyses.

Beginning Database Design - Clare Churcher
2012-08-08

Beginning Database Design, Second Edition provides short, easy-to-read explanations of how to get database design right the first time. This book offers numerous examples to help you avoid the many pitfalls that entrap new and not-so-new database designers. Through the help of use cases and class diagrams modeled in the UML, you'll learn to discover and represent the details and scope of any design problem you choose to attack. Database design is not an exact science. Many are surprised to find that problems with their databases are caused by poor design rather than by difficulties in using the database management software. Beginning Database Design, Second Edition helps you ask and answer important questions about your data so you can understand the problem you are trying to solve and create a pragmatic design

capturing the essentials while leaving the door open for refinements and extension at a later stage. Solid database design principles and examples help demonstrate the consequences of simplifications and pragmatic decisions. The rationale is to try to keep a design simple, but allow room for development as situations change or resources permit. Provides solid design principles by which to avoid pitfalls and support changing needs Includes numerous examples of good and bad design decisions and their consequences Shows a modern method for documenting design using the Unified Modeling Language

Data Modeling for the Business - Steve Hoberman
2009-04-01

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 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 *fruit*ion:

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

Data and Reality - William Kent 1978

The nature of an information system; Naming; Relationships; Attributes; Types and categories and sets; Models; The record model; The other three popular models; The modelling of relationships; Elementary concepts; Philosophy. *The Data Model Resource Book, Volume 1* - Len

Silverston 2011-08-08

A quick and reliable way to build proven databases for core business functions Industry experts raved about The Data Model Resource Book when it was first published in March 1997 because it provided a simple, cost-effective way to design databases for core business functions. Len Silverston has now revised and updated the hugely successful 1st Edition, while adding a companion volume to take care of more specific requirements of different businesses. This updated volume provides a common set of data models for specific core functions shared by most businesses like human resources management, accounting, and project management. These models are standardized and are easily replicated by developers looking for ways to make corporate database development more efficient and cost effective. This guide is the perfect complement to The Data Model Resource CD-ROM, which is sold separately and provides the powerful design

templates discussed in the book in a ready-to-use electronic format. A free demonstration CD-ROM is available with each copy of the print book to allow you to try before you buy the full CD-ROM.

Building the Data Warehouse - W. H. Inmon
2002-10-01

The data warehousing bible updated for the new millennium Updated and expanded to reflect the many technological advances occurring since the previous edition, this latest edition of the data warehousing "bible" provides a comprehensive introduction to building data marts, operational data stores, the Corporate Information Factory, exploration warehouses, and Web-enabled warehouses. Written by the father of the data warehouse concept, the book also reviews the unique requirements for supporting e-business and explores various ways in which the traditional data warehouse can be integrated with new technologies to provide enhanced customer service, sales, and support-both online

and offline-including near-line data storage techniques.

The R Book - Michael J. Crawley 2007-06-13
The high-level language of R is recognized as one of the most powerful and flexible statistical software environments, and is rapidly becoming the standard setting for quantitative analysis, statistics and graphics. R provides free access to unrivalled coverage and cutting-edge applications, enabling the user to apply numerous statistical methods ranging from simple regression to time series or multivariate analysis. Building on the success of the author's bestselling *Statistics: An Introduction using R*, *The R Book* is packed with worked examples, providing an all inclusive guide to R, ideal for novice and more accomplished users alike. The book assumes no background in statistics or computing and introduces the advantages of the R environment, detailing its applications in a wide range of disciplines. Provides the first comprehensive reference manual for the

R language, including practical guidance and full coverage of the graphics facilities. Introduces all the statistical models covered by R, beginning with simple classical tests such as chi-square and t-test. Proceeds to examine more advanced methods, from regression and analysis of variance, through to generalized linear models, generalized mixed models, time series, spatial statistics, multivariate statistics and much more. The R Book is aimed at undergraduates, postgraduates and professionals in science, engineering and medicine. It is also ideal for students and professionals in statistics, economics, geography and the social sciences.
[Data Modeling for MongoDB](#) - Steve Hoberman 2014-06-01

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 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.

Empirical Model Building - James R.

Thompson 1989-02

A hands-on approach to the basic principles of empirical model building. Includes a series of real-world statistical problems illustrating modeling skills and techniques. Covers models of growth and decay, systems where competition and interaction add to the complexity of the model, and discusses both classical and

nonclassical data analysis methods.

Data Modeling Essentials - Graeme C. Simsion
2001

This essential guide focuses on data quality and why the data model is so important, plus includes essential material on developing a real model, and covers organization of the modeling task and managing compromises.

Data Modeling Essentials, Third Edition -
Graeme C. Simsion 2005

Data Modeling Made Simple - Steve
Hoberman 2015-12-29

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.

Introduction to Computation and Programming Using Python, third edition - John V. Guttag
2021-01-26

The new edition of an introduction to the art of computational problem solving using Python. This book introduces students with little or no prior programming experience to the art of computational problem solving using Python and various Python libraries, including numpy, matplotlib, random, pandas, and sklearn. It

provides students with skills that will enable them to make productive use of computational techniques, including some of the tools and techniques of data science for using computation to model and interpret data as well as substantial material on machine learning. All of the code in the book and an errata sheet are available on the book's web page on the MIT Press website.

Data Modeling, A Beginner's Guide - Andy Oppel
2009-11-23

Essential Skills--Made Easy! Learn how to create data models that allow complex data to be analyzed, manipulated, extracted, and reported upon accurately. Data Modeling: A Beginner's Guide teaches you techniques for gathering business requirements and using them to produce conceptual, logical, and physical database designs. You'll get details on Unified Modeling Language (UML), normalization, incorporating business rules, handling temporal data, and analytical database design. The

methods presented in this fast-paced tutorial are applicable to any database management system, regardless of vendor. Designed for Easy Learning Key Skills & Concepts--Chapter-opening lists of specific skills covered in the chapter Ask the expert--Q&A sections filled with bonus information and helpful tips Try This--Hands-on exercises that show you how to apply your skills Notes--Extra information related to the topic being covered Self Tests--Chapter-ending quizzes to test your knowledge Andy Oppel has taught database technology for the University of California Extension for more than 25 years. He is the author of Databases Demystified, SQL Demystified, and Databases: A Beginner's Guide, and the co-author of SQL: A Beginner's Guide, Third Edition, and SQL: The Complete Reference, Third Edition. Data Modeling and Database Design - Narayan S. Umanath 2014-06-18 DATA MODELING AND DATABASE DESIGN presents a conceptually complete coverage of

indispensable topics that each MIS student should learn if that student takes only one database course. Database design and data modeling encompass the minimal set of topics addressing the core competency of knowledge students should acquire in the database area. The text, rich examples, and figures work together to cover material with a depth and precision that is not available in more introductory database books. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The Data Warehouse Toolkit - Ralph Kimball
2011-08-08

This old edition was published in 2002. The current and final edition of this book is *The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling*, 3rd Edition which was published in 2013 under ISBN: 9781118530801. The authors begin with fundamental design recommendations and gradually progress step-

by-step through increasingly complex scenarios. Clear-cut guidelines for designing dimensional models are illustrated using real-world data warehouse case studies drawn from a variety of business application areas and industries, including: Retail sales and e-commerce Inventory management Procurement Order management Customer relationship management (CRM) Human resources management Accounting Financial services Telecommunications and utilities Education Transportation Health care and insurance By the end of the book, you will have mastered the full range of powerful techniques for designing dimensional databases that are easy to understand and provide fast query response. You will also learn how to create an architected framework that integrates the distributed data warehouse using standardized dimensions and facts.

UML and Data Modeling - David C. Hay
2011-11-01

Here you will learn how to develop an attractive, easily readable, conceptual, business-oriented entity/relationship model, using a variation on the UML Class Model notation. This book has two audiences: • Data modelers (both analysts and database designers) who are convinced that UML has nothing to do with them; and • UML experts who don't realize that architectural data modeling really is different from object modeling (and that the differences are important). David Hay's objective is to finally bring these two groups together in peace. Here all modelers will receive guidance on how to produce a high quality (that is, readable) entity/relationship model to describe the data architecture of an organization. The notation involved happens to be the one for class models in the Unified Modeling Language, even though UML was originally developed to support object-oriented design. Designers have a different view of the world from those who develop business-oriented conceptual data models, which means that to

use UML for architectural modeling requires some adjustments. These adjustments are described in this book. David Hay is the author of *Enterprise Model Patterns: Describing the World*, a comprehensive model of a generic enterprise. The diagrams were at various levels of abstraction, and they were all rendered in the slightly modified version of UML Class Diagrams presented here. This book is a handbook to describe how to build models such as these. By way of background, an appendix provides a history of the two groups, revealing the sources of their different attitudes towards the system development process. If you are an old-school ER modeler and now find yourself having to come up to speed on UML to get that next job (or keep the current one), this is your guidebook to success. If you are a long time object oriented programmer who has to interact with data modelers, this book is for you too. David has done the hard work of mapping out how to do a logical entity relationship model using standard

(and accepted) UML diagram components. This book shows you step-by-step, with ample examples, how to get from here to there with the least pain possible for all concerned. Kent Graziano Certified Data Vault Master and Oracle ACE Past-President of ODTUG & RMOUG Brilliantly organized: three books hidden in one cohesive work. Notwithstanding the tremendous value provided by cross-training data architects/modelers and object modelers/architects, making each better at what they do, Appendix B presents an absolutely awesome concise, yet detailed, history of modeling objects and data that clearly documents the differences in the approaches over the years and helps bring it all into perspective. This book is packed with useful information. Even the footnotes add clarity and offer interesting and often humorous editorial insight making it a fun read. Whatever viewpoint the reader is coming from this book has something to offer as long as the reader

maintains an open mind. Roland Berg Senior Architect Diligent Consulting, Inc. San Antonio, Texas

Data Modeling Essentials - Graeme C. Simsion 2005

This book is generally considered to be one of the best practical guides to data modeling and is commonly praised for its clarity and usefulness. Although it is a practitioner's guide, it garnered healthy classroom adoptions in the US and Australia. For the 3rd ed the authors have added a substantial online component including UML versions of all the diagrams, extra examples, course notes, questions, and solutions. Also, Graeme Simsion is a highly regarded member of the data management community, both in academia and industry. He won the 2002 DAMA Lifetime Achievement Award and the 2003 International Achievement Award. (Midwest).

Autodesk 3ds Max 2021: Modeling Essentials, 3rd Edition (in Full Color) - Pradeep Mamgain 2020-07-13

Description The Autodesk 3ds Max 2021: Modeling Essentials, 3rd Edition textbook walks you through every step of creating 3D models with 3ds Max 2021. This guide is perfect for both novices and those moving from other software to 3ds Max. This book will help you to get started with modeling in 3ds Max, you will learn important concepts and techniques about 3D modeling which you can utilize to create hard-surfaced objects for your projects. You will also learn about managing external design data in 3ds Max 2021. Using a structured and pragmatic approach, this guide begins with the basics of modeling, then builds on this knowledge using practical examples to enhance your modeling skills. Each unit builds on the knowledge gained in the previous unit, showing you all the essentials of modeling with 3ds Max 2021. As you go from hands-on exercise to hands-on exercise, you'll develop a strong arsenal of skills that combined will form a complete end to end process to create high-

quality models using 3ds Max 2021. This book shares tips, tricks, notes, and cautions throughout, which will help you become a better 3ds Max artist and you will be able to speed up your workflow. This book is aimed to be a solid teaching resource for learning 3ds Max. It avoids any jargon and explains concepts and techniques in an easy-to-understand manner. The first page of every unit summarizes the topics that will be covered in the unit. Hands-on exercises in this book instruct users how things can be done in 3ds Max step-by-step. Key Features Covers 3ds Max's user interface, navigation, tools, functions, and commands. Explains the polygon, subdivision, and spline modeling techniques. Covers all modifiers. Explains how to manage external design data. Detailed coverage of tools and features. Features 34 hands-on exercises - complete with before and after files. Features 40+ practice activities to test the knowledge gained. Additional guidance is provided in the form of

tips, notes, and cautions. Important terms are in boldface so that you never miss them. The content under "What just happened?" heading explains the working of the instructions. The content under "What next?" heading tells you about the procedure you will follow after completing a step(s). Tech support from the author. Access to each exercise's initial and final states along with the resources used in hands-on exercises. Quiz to assess knowledge. Bonus hands-on exercises. Includes a PDF file that contains the color images of the screenshots/illustrations used in the textbook. These color images will help you in the learning process. This PDF file is included with the resources. Brief Table of Contents This book is divided into following units: Unit 1: Introduction to 3ds Max -I Unit 2: Introduction to 3ds Max -II Unit 3: Geometric Primitives and Architectural Objects Unit 4: Polygon Modeling Unit 5: Graphite Modeling Tools Unit 6: Spline Modeling Unit 7: Modifiers Unit 8: External Design Data

Unit 9: Bonus Hands-on Exercises For more info, visit PADEXI ACADEMY'S website.

SQL Clearly Explained - Jan L. Harrington
2003-05-28

This is the second edition of the popular practitioner's guide to SQL, the industry-standard database query language. Like most computer languages, SQL can be overwhelming when you first see it, but for years readers have relied on this book to clear the confusion and explain how SQL works and how to use it effectively. Packed with tips, tricks, and good information, SQL Clearly Explained, Second Edition teaches database users and programmers everything they need to know to get their job done including · formulating SQL queries, · understanding how queries are processed by the DBMS, · maximizing performance, · using SQL to enter, modify, or delete data, · creating and maintaining database structural elements, and · embedding SQL in applications. Features · Updated and expanded

to include changes in the SQL standard (SQL:1999) as well as recently implemented aspects of SQL-92. · Includes CD with examples from the book as well as MySQL, a popular open-source DBMS, on which the examples are based. · Web enhanced with extra features available online at www.mkp.com. * Second edition of classic SQL handbook * Updated to cover changes in the SQL language standard (SQL:1999) * Includes CD with MySQL software

An Introduction to Statistical Learning -
Gareth James 2013-06-24

An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. This book presents some of the most important modeling and prediction techniques, along with relevant applications. Topics include linear regression, classification,

resampling methods, shrinkage approaches, tree-based methods, support vector machines, clustering, and more. Color graphics and real-world examples are used to illustrate the methods presented. Since the goal of this textbook is to facilitate the use of these statistical learning techniques by practitioners in science, industry, and other fields, each chapter contains a tutorial on implementing the analyses and methods presented in R, an extremely popular open source statistical software platform. Two of the authors co-wrote *The Elements of Statistical Learning* (Hastie, Tibshirani and Friedman, 2nd edition 2009), a popular reference book for statistics and machine learning researchers. *An Introduction to Statistical Learning* covers many of the same topics, but at a level accessible to a much broader audience. This book is targeted at statisticians and non-statisticians alike who wish to use cutting-edge statistical learning techniques to analyze their data. The text

assumes only a previous course in linear regression and no knowledge of matrix algebra.

Data Modeling Essentials - Graeme C. Simson 2005

The Data Model Resource Book - Len Silverston 2009-01-09

This third volume of the best-selling "Data Model Resource Book" series revolutionizes the data modeling discipline by answering the question "How can you save significant time while improving the quality of any type of data modeling effort?" In contrast to the first two volumes, this new volume focuses on the fundamental, underlying patterns that affect over 50 percent of most data modeling efforts. These patterns can be used to considerably reduce modeling time and cost, to jump-start data modeling efforts, as standards and guidelines to increase data model consistency and quality, and as an objective source against which an enterprise can evaluate data models.

R for Data Science - Hadley Wickham

2016-12-12

Learn how to use R to turn raw data into insight, knowledge, and understanding. 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, R for Data Science is designed to get you doing data science as quickly as possible. Authors Hadley Wickham and Garrett Grolemund guide you through the steps of importing, wrangling, exploring, and modeling your data and communicating the results. You'll get a complete, big-picture understanding of the data science cycle, along with basic tools you need to manage the details. Each section of the book is paired with exercises to help you practice what you've learned along the way. You'll learn how to:

- Wrangle—transform your datasets into a form convenient for analysis
- Program—learn powerful

R tools for solving data problems with greater clarity and ease

- Explore—examine your data, generate hypotheses, and quickly test them
- Model—provide a low-dimensional summary that captures true "signals" in your dataset
- Communicate—learn R Markdown for integrating prose, code, and results

Mathematics for Machine Learning - Marc Peter Deisenroth 2020-04-23

The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive

four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.

Data Warehousing And Business Intelligence For e-Commerce - Alan R. Simon
2001-05-23

You go online to buy a digital camera. Soon, you realize you've bought a more expensive camera than intended, along with extra batteries, charger, and graphics software-all at the prompting of the retailer. Happy with your purchases? The retailer certainly is, and if you

are too, you both can be said to be the beneficiaries of "customer intimacy" achieved through the transformation of data collected during this visit or stored from previous visits into real business intelligence that can be exercised in real time. Data Warehousing and Business Intelligence for e-Commerce is a practical exploration of the technological innovations through which traditional data warehousing is brought to bear on this and other less modest e-commerce applications, such as those at work in B2B, G2C, B2G, and B2E models. The authors examine the core technologies and commercial products in use today, providing a nuts-and-bolts understanding of how you can deploy customer and product data in ways that meet the unique requirements of the online marketplace-particularly if you are part of a brick-and-mortar company with specific online aspirations. In so doing, they build a powerful case for investment in and aggressive development of these approaches, which are

likely to separate winners from losers as e-commerce grows and matures. * Includes the latest from successful data warehousing consultants whose work has encouraged the field's new focus on e-commerce. * Presents information that is written for both consultants and practitioners in companies of all sizes. * Emphasizes the special needs and opportunities of traditional brick-and-mortar businesses that are going online or participating in B2B supply chains or e-marketplaces. * Explains how long-standing assumptions about data warehousing have to be rethought in light of emerging business models that depend on customer intimacy. * Provides advice on maintaining data quality and integrity in environments marked by extensive customer self-input. * Advocates careful planning that will help both old economy and new economy companies develop long-lived and successful e-commerce strategies. * Focuses on data warehousing for emerging e-commerce areas such as e-government and B2E

environments.

Fluent Python - Luciano Ramalho 2015-07-30
Python's simplicity lets you become productive quickly, but this often means you aren't using everything it has to offer. With this hands-on guide, you'll learn how to write effective, idiomatic Python code by leveraging its best—and possibly most neglected—features. Author Luciano Ramalho takes you through Python's core language features and libraries, and shows you how to make your code shorter, faster, and more readable at the same time. Many experienced programmers try to bend Python to fit patterns they learned from other languages, and never discover Python features outside of their experience. With this book, those Python programmers will thoroughly learn how to become proficient in Python 3. This book covers: Python data model: understand how special methods are the key to the consistent behavior of objects Data structures: take full advantage of built-in types, and understand the

text vs bytes duality in the Unicode age
Functions as objects: view Python functions as first-class objects, and understand how this affects popular design patterns
Object-oriented idioms: build classes by learning about references, mutability, interfaces, operator overloading, and multiple inheritance
Control flow: leverage context managers, generators, coroutines, and concurrency with the concurrent.futures and asyncio packages
Metaprogramming: understand how properties, attribute descriptors, class decorators, and metaclasses work

The Data Modeling Handbook - Michael C. Reingruber 1994-12-17

A Straightforward, No-Nonsense Guide to Building the Most Accurate, Complete, and Useful Data Models Possible. How do I know if my data model is accurate? When is a model really complete? Is it possible for a model to be both technically perfect and of no use to an organization, and what can I do to avoid that

problem? This book provides answers to these and other crucial data modeling questions. While there are plenty of books that describe the characteristics of finished high-quality data models, only *The Data Modeling Handbook* gets down to the nitty-gritty of actually building one. Packed with real-world examples, annotated diagrams, and a wealth of rules and best practices, this field-tested guide provides experienced data modelers, architects, and engineers with hands-on guidance from two noted data management experts. * The only book offering clear, straightforward rules and guidelines for judging model accuracy and completeness * Presents all rules in several notations, including IDEF1X, Martin, Chen, and Finkelstein * Compares and contrasts the most popular modeling styles and demonstrates how great models can be built using any type of notation * Explains how to use an organization's plans, policies, objectives, and strategies to build accurate, complete, and useful models * Offers

detailed guidance to establishing a continuous quality evaluation program that's easy to implement and follow * Packed with real-world examples and annotated diagrams illustrating each point covered * Describes how to use Case tools most effectively to build high-quality models

Mastering Data Modeling - John Carlis
2000-11-10

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 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.