Relational Database Design Clearly Explained The Morgan Kaufmann Series In Data Management Systems

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Joe Celko's Data and Databases - Joe Celko 1999-08-10
This text covers basic database concepts to provide a conceptual understanding of data and databases necessary for database design and development.

Data on the Web - Serge Abiteboul 2000
Data model. Queries. Types. Sysems. A syntax for data. XML.. Query languages. Query languages for XML. Interpretation and advanced features. Typing semistructured data. Query processing. The lore system. Strudel. Database products supporting XML. Bibliography. Index. About the authors.

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.

Sams Teach Yourself SQL in 10 Minutes - Ben Forta 2004
Explains how to use Structured Query Language to work within a relational database system, including information retrieval, security, data manipulation, and user management.

Database Tuning - Dennis Shasha 2002-06-07
Tuning your database for optimal performance means more than following a few short steps in a vendor-specific guide. For maximum improvement, you need a broad and deep knowledge of basic tuning principles, the ability to gather data in a systematic way, and the skill to make your system run faster. This is an art as well as a science, and Database Tuning: Principles, Experiments, and Troubleshooting Techniques will help you develop portable skills that will allow you to tune a wide variety of database systems on a multitude of hardware and operating systems. Further, these skills, combined with the scripts provided for validating results, are exactly what you need to evaluate competing database products and to choose the right one. Forward by Jim Gray, with invited chapters by Joe Celko and Alberto Lerner Includes industrial contributions by Bill McKenna (RedBrick/Informix), Hany Saleeb (Oracle), Tim Shetler (TimesTen), Judy Smith (Deutsche Bank), and Ron Yorita (IBM) Covers the entire system environment: hardware, operating system, transactions, indexes, queries, table design, and application analysis Contains experiments (scripts available on the author's site) to help you verify a system's effectiveness in your own environment Presents special topics, including data warehousing, Web support, main memory databases, specialized databases, and financial time series Describes performance-monitoring techniques that will help you recognize and troubleshoot problems

SQL Clearly Explained - Jan L. Harrington 2003-05-28
SQL Explained, Third Edition, provides an in-depth introduction to using SQL (Structured Query Language). Readers will learn not only SQL syntax, but also how SQL works. Understanding the how as well as the what will aid in creating SQL statements that execute as quickly as possible. The book is organized into five parts. Part I presents the theoretical material underlying relational databases and SQL. Part II covers interactive SQL retrieval. Part III discusses the creation and management of database structure. It also covers non-data elements in the database environment, such as managing users/user accounts and transaction control. Part IV introduces several techniques for SQL

programming: embedded SQL (using a high-level host language), dynamic SQL, and triggers/stored procedures. Part V discusses the non-relational extensions that have been added to the SQL standard: XML and object-relational capabilities. It covers object-oriented concepts, including the differences between pure object-oriented databases and object-relational databases. It also looks at SQL's object-relational features. Demonstrates how to formulate SQL queries and how queries are processed to maximize performance of the database management system Explains use of SQL to enter, modify or delete data to maintain database structural elements Covers in great detail new SQL application for XML to meet the growing XML usage in development of online content

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.

Understanding the New SQL - Jim Melton 1993
The only book you'll ever need on SQL. The authors detail the changes in the new standard and provide a thorough guide to programming with SQL 2 for both newcomers and experienced programmers. The book is one that novice programmers should read cover to cover and experienced DBMS professionals should have as a definitive reference book for the new SQL 2 standard.

XML for Data Architects - James Bean 2003-07-03
"XML for Data Architects" focuses on the combination of architectural and design approaches to using XML, providing numerous syntactical and working examples. It describes the challenges of using XML in a manner that promotes simplification of integration, and a high degree of schema reuse.

Database Modeling and Design - Toby J. Teorey 1999
This work has been revised and updated to provide a comprehensive treatment of database design for commercial database products and their applications. The book covers the basic foundation of design as well as more advanced techniques, and also incorporates coverage of data warehousing and OLAP (On-Line Analytical Processing), data mining, object-relational, multimedia, and temporal/spatial design.

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

Developing High Quality Data Models - Matthew West 2011-02-07 Developing High Quality Data Models provides an introduction to the key principles of data modeling. It explains the purpose of data models in both developing an Enterprise Architecture and in supporting Information Quality; common problems in data model development; and how to develop high quality data models, in particular conceptual, integration, and enterprise data models. The book is organized into four parts. Part 1 provides an overview of data models and data modeling including the basics of data model notation; types and uses of data models; and the place of data models in enterprise architecture. Part 2 introduces some general principles for data models, including principles for developing ontologically based data models; and applications of the principles for attributes, relationship types, and entity types. Part 3 presents an ontological framework for developing consistent data models. Part 4 provides the full data model that has been in development throughout the book. The model was created using Jotne EPM Technologys EDMVisualExpress data modeling tool. This book was designed for all types of modelers: from those who understand data modeling basics but are just starting to learn about data modeling in practice, through to experienced data modelers seeking to expand their knowledge and skills and solve some of the more challenging problems of data modeling. Uses a number of common data model patterns to explain how to develop data models over a wide scope in a way that is consistent and of high quality Offers generic data model templates that are reusable in many applications and are fundamental for developing more specific templates Develops ideas for creating consistent approaches to high quality data models

Database Design for Mere Mortals - Michael James Hernandez 2003 "This book takes the somewhat daunting process of database design and breaks it into completely manageable and understandable components. Mike's approach whilst simple is completely professional, and I can recommend this book to any novice database designer." --Sandra Barker, Lecturer, University of South Australia, Australia "Databases are a critical infrastructure technology for information systems and today's business. Mike Hernandez has written a literate explanation of database technology--a topic that is intricate and often obscure. If you design databases yourself, this book will educate you about pitfalls and show you what to do. If you purchase products that use a database, the book explains the technology so that you can understand what the vendor is doing and assess their products better." --Michael Blaha, consultant and trainer, author of A Manager's Guide to Database Technology "If you told me that Mike Hernandez could improve on the first edition of Database Design for Mere Mortals I wouldn't have believed you, but he did! The second edition is packed with more real-world examples, detailed explanations, and even includes database-design tools on the CD-ROM! This is a must-read for anyone who is even remotely interested in relational database design, from the individual who is called upon occasionally to create a useful tool at work, to the seasoned professional who wants to brush up on the fundamentals. Simply put, if you want to do it right, read this book!" --Matt Greer, Process Control Development, The Dow Chemical Company "Mike's approach to database design is totally common-sense based, yet he's adhered to all the rules of good relational database design. I use Mike's books in my starter database-design class, and I recommend his books to anyone who's interested in learning how to design databases or how to write SQL queries." --Michelle Poolet, President, MVDS, Inc. "Slapping together sophisticated applications with poorly designed data will hurt you just as much now as when Mike wrote his first edition, perhaps even more. Whether you're just getting started developing with data or are a seasoned pro; whether you've read Mike's previous book or this is your first; whether you're happier letting someone else design your data or you love doing it

yourself--this is the book for you. Mike's ability to explain these concepts in a way that's not only clear, but fun, continues to amaze me." --From the Foreword by Ken Getz, MCW Technologies, coauthor ASP.NET Developer's JumpStart "The first edition of Mike Hernandez's book Database Design for Mere Mortals was one of the few books that survived the cut when I moved my office to smaller quarters. The second edition expands and improves on the original in so many ways. It is not only a good, clear read, but contains a remarkable quantity of clear, concise thinking on a very complex subject. It's a must for anyone interested in the subject of database design." --Malcolm C. Rubel, Performance Dynamics Associates "Mike's excellent guide to relational database design deserves a second edition. His book is an essential tool for fledgling Microsoft Access and other desktop database developers, as well as for client/server pros. I recommend it highly to all my readers." --Roger Jennings, author of Special Edition Using Access 2002 "There are no silver bullets! Database technology has advanced dramatically, the newest crop of database servers perform operations faster than anyone could have imagined six years ago, but none of these technological advances will help fix a bad database design, or capture data that you forgot to include! Database Design for Mere Mortals(TM), Second Edition, helps you design your database right in the first place!" --Matt Nunn, Product Manager, SQL Server, Microsoft Corporation "When my brother started his professional career as a developer, I gave him Mike's book to help him understand database concepts and make real-world application of database technology. When I need a refresher on the finer points of database design, this is the book I pick up. I do not think that there is a better testimony to the value of a book than that it gets used. For this reason I have wholeheartedly recommended to my peers and students that they utilize this book in their day-to-day development tasks." --Chris Kunicki, Senior Consultant, OfficeZealot.com "Mike has always had an incredible knack for taking the most complex topics, breaking them down, and explaining them so that anyone can 'get it.' He has honed and polished his first very, very good edition and made it even better. If you're just starting out building database applications, this book is a must-read cover to cover. Expert designers will find Mike's approach fresh and enlightening and a source of great material for training others." --John Viescas, President, Viescas Consulting, Inc., author of Running Microsoft Access 2000 and coauthor of SQL Queries for Mere Mortals "Whether you need to learn about relational database design in general, design a relational database, understand relational database terminology, or learn best practices for implementing a relational database, Database Design for Mere Mortals(TM), Second Edition, is an indispensable book that you'll refer to often. With his many years of real-world experience designing relational databases, Michael shows you how to analyze and improve existing databases, implement keys, define table relationships and business rules, and create data views, resulting in data integrity, uniform access to data, and reduced data-entry errors." --Paul Cornell, Site Editor, MSDN Office Developer Center Sound database design can save hours of development time and ensure functionality and reliability. Database Design for Mere Mortals(TM), Second Edition, is a straightforward, platform-independent tutorial on the basic principles of relational database design. It provides a commonsense design methodology for developing databases that work. Database design expert Michael J. Hernandez has expanded his best-selling first edition, maintaining its hands-on approach and accessibility while updating its coverage and including even more examples and illustrations. This edition features a CD-ROM that includes diagrams of sample databases, as well as design guidelines, documentation forms, and examples of the database design process. This book will give you the knowledge and tools you need to create efficient and effective relational databases.

Probabilistic Databases - Dan Suciu 2022-05-31 Probabilistic databases are databases where the value of some attributes or the presence of some records are uncertain and known only with some probability. Applications in many areas such as information extraction, RFID and scientific data management, data cleaning, data integration, and financial risk assessment produce large volumes of uncertain data, which are best modeled and processed by a probabilistic database. This book presents the state of the art in representation formalisms and query processing techniques for probabilistic data. It starts by discussing the basic principles for representing large probabilistic databases, by decomposing them into tuple-independent tables, block-independent-disjoint tables, or U-databases. Then it discusses two classes of techniques for query evaluation on probabilistic databases. In extensional query evaluation, the entire probabilistic inference can be

pushed into the database engine and, therefore, processed as effectively as the evaluation of standard SQL queries. The relational queries that can be evaluated this way are called safe queries. In intensional query evaluation, the probabilistic inference is performed over a propositional formula called lineage expression: every relational query can be evaluated this way, but the data complexity dramatically depends on the query being evaluated, and can be #P-hard. The book also discusses some advanced topics in probabilistic data management such as top-k query processing, sequential probabilistic databases, indexing and materialized views, and Monte Carlo databases. Table of Contents: Overview / Data and Query Model / The Query Evaluation Problem / Extensional Query Evaluation / Intensional Query Evaluation / Advanced Techniques

The Design and Implementation of Geographic Information Systems - John E. Harmon 2003-03-25
Presents strategies for application development, interface design,and enabling Web-based access. * Includes numerous case studies and examples from the private andpublic sectors. * Provides information on integrating legacy MIS systems andplanning for future developments in database design.

Data Mining: Concepts and Techniques - Jiawei Han 2011-06-09
Data Mining: Concepts and Techniques provides the concepts and techniques in processing gathered data or information, which will be used in various applications. Specifically, it explains data mining and the tools used in discovering knowledge from the collected data. This book is referred as the knowledge discovery from data (KDD). It focuses on the feasibility, usefulness, effectiveness, and scalability of techniques of large data sets. After describing data mining, this edition explains the methods of knowing, preprocessing, processing, and warehousing data. It then presents information about data warehouses, online analytical processing (OLAP), and data cube technology. Then, the methods involved in mining frequent patterns, associations, and correlations for large data sets are described. The book details the methods for data classification and introduces the concepts and methods for data clustering. The remaining chapters discuss the outlier detection and the trends, applications, and research frontiers in data mining. This book is intended for Computer Science students, application developers, business professionals, and researchers who seek information on data mining. Presents dozens of algorithms and implementation examples, all in pseudo-code and suitable for use in real-world, large-scale data mining projects Addresses advanced topics such as mining object-relational databases, spatial databases, multimedia databases, time-series databases, text databases, the World Wide Web, and applications in several fields Provides a comprehensive, practical look at the concepts and techniques you need to get the most out of your data

Artificial Intelligence Research and Development - Z. Falomir 2018-10-04
It is almost impossible today to find an economic sector or aspect of society which does not involve AI techniques in some way. This pervasive technology has become indispensible in a multitude of ways, from supporting decision making to managing digital devices such as smart sensors, mechanical arms or artificial eyes. The ability of AI to emulate intelligence in the resolution of challenging problems has placed it at the centre of problem solving in all areas of our society. This book presents contributions from CCIA 2018, the 21st International Conference of the Catalan Association for Artificial Intelligence which took place in Alt Empordà, Catalonia, Spain, on 8-10th October 2018. The book aims to provide a picture of what is being achieved and what is under development in AI today. As such, its contents represent the diversity of approaches and applications currently being researched, but it also presents invited contributions which deal with some of the challenges that will have to be faced in the decade to come. The contributions included in this book are organized under the following headings: logic, satisfiability and fuzzy sets; classifiers, networks and machine learning; data science, recommender systems and case-based reasoning; natural language and sound processing; cognitive systems and agents; and computer vision and robotics. The book also covers a number of current AI challenges and new trends like big data, spatial problem solving, ethics and AI, and how blockchain impacts AI. Providing an up-to-the-minute overview of current AI technology and research, this book will be of value to all those with an interest in the subject.

Time and Relational Theory - C.J. Date 2014-08-13
Time and Relational Theory provides an in-depth description of temporal database systems, which provide special facilities for storing, querying, and updating historical and future data. Traditionally, database management systems provide little or no special support for temporal

data at all. This situation is changing because: Cheap storage enables retention of large volumes of historical data in data warehouses Users are now faced with temporal data problems, and need solutions Temporal features have recently been incorporated into the SQL standard, and vendors have begun to add temporal support to their DBMS products Based on the groundbreaking text Temporal Data & the Relational Model (Morgan Kaufmann, 2002) and new research led by the authors, Time and Relational Theory is the only book to offer a complete overview of the functionality of a temporal DBMS. Expert authors Nikos Lorentzos, Hugh Darwen, and Chris Date describe an approach to temporal database management that is firmly rooted in classical relational theory and will stand the test of time. This book covers the SQL:2011 temporal extensions in depth and identifies and discusses the temporal functionality still missing from SQL. Understand how the relational model provides an ideal basis for taming the complexities of temporal databases Learn how to analyze and evaluate commercial temporal products with this timely and important information Be able to use sound principles in designing and using temporal databases Understand the temporal support recently added to SQL with coverage of the new SQL features in this unique, accurate, and authoritative reference Appreciate the benefits of a truly relational approach to the problem with this clear, user friendly presentation

Data Model Patterns: A Metadata Map - David C. Hay 2010-07-20
Data Model Patterns: A Metadata Map not only presents a conceptual model of a metadata repository but also demonstrates a true enterprise data model of the information technology industry itself. It provides a step-by-step description of the model and is organized so that different readers can benefit from different parts. It offers a view of the world being addressed by all the techniques, methods, and tools of the information processing industry (for example, object-oriented design, CASE, business process re-engineering, etc.) and presents several concepts that need to be addressed by such tools. This book is pertinent, with companies and government agencies realizing that the data they use represent a significant corporate resource recognize the need to integrate data that has traditionally only been available from disparate sources. An important component of this integration is management of the "metadata" that describe, catalogue, and provide access to the various forms of underlying business data. The "metadata repository" is essential to keep track of the various physical components of these systems and their semantics. The book is ideal for data management professionals, data modeling and design professionals, and data warehouse and database repository designers. A comprehensive work based on the Zachman Framework for information architecture—encompassing the Business Owner's, Architect's, and Designer's views, for all columns (data, activities, locations, people, timing, and motivation) Provides a step-by-step description of model and is organized so that different readers can benefit from different parts Provides a view of the world being addressed by all the techniques, methods and tools of the information processing industry (for example, object-oriented design, CASE, business process re-engineering, etc.) Presents many concepts that are not currently being addressed by such tools — and should be

Principles of Transaction Processing - Philip A. Bernstein 2009-07-24
Principles of Transaction Processing is a comprehensive guide to developing applications, designing systems, and evaluating engineering products. The book provides detailed discussions of the internal workings of transaction processing systems, and it discusses how these systems work and how best to utilize them. It covers the architecture of Web Application Servers and transactional communication paradigms. The book is divided into 11 chapters, which cover the following: Overview of transaction processing application and system structure Software abstractions found in transaction processing systems Architecture of multitier applications and the functions of transactional middleware and database servers Queued transaction processing and its internals, with IBM's Websphere MQ and Oracle's Stream AQ as examples Business process management and its mechanisms Description of the two-phase locking function, B-tree locking and multigranularity locking used in SQL database systems and nested transaction locking System recovery and its failures Two-phase commit protocol Comparison between the tradeoffs of replicating servers versus replication resources Transactional middleware products and standards Future trends, such as cloud computing platforms, composing scalable systems using distributed computing components, the use of flash storage to replace disks and data streams from sensor devices as a source of transaction requests. The text meets the needs of systems professionals, such as IT application

programmers who construct TP applications, application analysts, and product developers. The book will also be invaluable to students and novices in application programming. Complete revision of the classic "non mathematical" transaction processing reference for systems professionals. Updated to focus on the needs of transaction processing via the Internet-- the main focus of business data processing investments, via web application servers, SOA, and important new TP standards. Retains the practical, non-mathematical, but thorough conceptual basis of the first edition.

SQL: 1999 - Jim Melton 2002
SQL: 1999 is the best way to make the leap from SQL-92 to SQL:1999, but it is much more than just a simple bridge between the two. The latest from celebrated SQL experts Jim Melton and Alan Simon, SQL:1999 is a comprehensive, eminently practical account of SQL's latest incarnation and a potent distillation of the details required to put it to work. Written to accommodate both novice and experienced SQL users, SQL:1999 focuses on the language's capabilities, from the basic to the advanced, and the ways that real applications take advantage of them. Throughout, the authors illustrate features and techniques with clear and often entertaining references to their own custom database. Gives authoritative coverage from an expert team that includes the editor of the SQL-92 and SQL:1999 standards. Provides a general introduction to SQL that helps you understand its constituent parts, history, and place in the realm of computer languages. Explains SQL:1999's more sophisticated features, including advanced value expressions, predicates, advanced SQL query expressions, and support for active databases. Explores key issues for programmers linking applications to SQL databases. Provides guidance on troubleshooting, internationalization, and changes anticipated in the next version of SQL. Contains appendices devoted to database design, a complete SQL:1999 example, the standardization process, and more.

Data Modeling Essentials - Graeme Simsion 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.

Relational Database Design and Implementation - Jan L. Harrington 2009-09-02
Fully revised, updated, and expanded, Relational Database Design and Implementation, Third Edition is the most lucid and effective introduction to the subject available for IT/IS professionals interested in honing their skills in database design, implementation, and administration. This book provides the conceptual and practical information necessary to develop a design and management scheme that ensures data accuracy and user satisfaction while optimizing performance, regardless of experience level or choice of DBMS. The book begins by reviewing basic concepts of databases and database design, then briefly reviews the SQL one would use to create databases. Topics such as the relational data model, normalization, data entities and Codd's Rules (and why they are important) are covered clearly and concisely but without resorting to "Dummies"-style talking down to the

reader. Supporting the book's step-by-step instruction are three NEW case studies illustrating database planning, analysis, design, and management practices. In addition to these real-world examples, which include object-relational design techniques, an entirely NEW section consisting of three chapters is devoted to database implementation and management issues. * Principles needed to understand the basis of good relational database design and implementation practices. * Examples to illustrate core concepts for enhanced comprehension and to put the book's practical instruction to work. * Methods for tailoring DB design to the environment in which the database will run and the uses to which it will be put. * Design approaches that ensure data accuracy and consistency. * Examples of how design can inhibit or boost database application performance. * Object-relational design techniques, benefits, and examples. * Instructions on how to choose and use a normalization technique. * Guidelines for understanding and applying Codd's rules. * Tools to implement a relational design using SQL. * Techniques for using CASE tools for database design.

PROC SQL - Kirk Paul Lafler 2019-03-20
PROC SQL: Beyond the Basics Using SAS®, Third Edition, is a step-by-step, example-driven guide that helps readers master the language of PROC SQL. Packed with analysis and examples illustrating an assortment of PROC SQL options, statements, and clauses, this book not only covers all the basics, but it also offers extensive guidance on complex topics such as set operators and correlated subqueries. Programmers at all levels will appreciate Kirk Lafler's easy-to-follow examples, clear explanations, and handy tips to extend their knowledge of PROC SQL. This third edition explores new and powerful features in SAS® 9.4, including topics such as: IFC and IFN functions nearest neighbor processing the HAVING clause indexes It also features two completely new chapters on fuzzy matching and data-driven programming. Delving into the workings of PROC SQL with greater analysis and discussion, PROC SQL: Beyond the Basics Using SAS®, Third Edition, explores this powerful database language using discussion and numerous real-world examples.

Relational Database Design and Implementation - Jan L. Harrington 2016-05-06
" Relational Database Design and Implementation: Clearly Explained, Fourth Edition, " provides the conceptual and practical information necessary to develop a database design and management scheme that ensures data accuracy and user satisfaction while optimizing performance. Database systems underlie the large majority of business information systems. Most of those in use today are based on the relational data model, a way of representing data and data relationships using only two-dimensional tables. This book covers relational database theory as well as providing a solid introduction to SQL, the international standard for the relational database data manipulation language. The book begins by reviewing basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL. Topics such as the relational data model, normalization, data entities, and Codd's Rules (and why they are important) are covered clearly and concisely. In addition, the book looks at the impact of big data on relational databases and the option of using NoSQL databases for that purpose. Features updated and expanded coverage of SQL and new material on big data, cloud computing, and object-relational databasesPresents design approaches that ensure data accuracy and consistency and help boost performanceIncludes three case studies, each illustrating a different database design challengeReviews the basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL

Joe Celko's Trees and Hierarchies in SQL for Smarties - Joe Celko 2012-01-25
The demand for SQL information and training continues to grow with the need for a database behind every website capable of offering web-based information queries. SQL is the de facto standard for database retrieval, and if you need to access, update, or utilize data in a modern database management system, you will need SQL to do it. The Second Edition of Joe Celko's Trees and Hierarchies in SQL for Smarties covers two new sets of extensions over three entirely new chapters and expounds upon the changes that have occurred in SQL standards since the previous edition's publication. Benefit from mastering the challenging aspects of these database applications in SQL as taught by Joe Celko, one of the most-read SQL authors in the world. Expert advice from a noted SQL authority and award-winning columnist who has given 10 years of service to the ANSI SQL standards committee Teaches scores of advanced techniques that can be used with any product, in any SQL environment

Offers graph theory and programming techniques for working around deficiencies and gives insight into real-world challenges

SQL Clearly Explained - Jan L. Harrington 2003-04-11
This is the second edition of the popular practitioner's guide to SQL, the industry standard database query language. Revised to enhance practical usage. Also includes two new chapters on unimplemented SQL2 features and SQL3, to educate readers as to what is coming.

Database Administration - Craig S. Mullins 2012-10-11
Database Administration, Second Edition , is the definitive, technology-independent guide to the modern discipline of database administration. Packed with best practices and proven solutions for any database platform or environment, this text fully reflects the field's latest realities and challenges. Drawing on more than thirty years of database experience, Mullins focuses on problems that today's DBAs actually face, and skills and knowledge they simply must have. Mullins presents realistic, thorough, and up-to-date coverage of every DBA task, including creating database environments, data modeling, normalization, design, performance, data integrity, compliance, governance, security, backup/recovery, disaster planning, data and storage management, data movement/distribution, data warehousing, connectivity, metadata, tools, and more. This edition adds new coverage of "Big Data," database appliances, cloud computing, and NoSQL. Mullins includes an entirely new chapter on the DBA's role in regulatory compliance, with substantial new material on data breaches, auditing, encryption, retention, and metadata management. You'll also find an all-new glossary, plus up-to-the-minute DBA rules of thumb.

Database Systems: The Complete Book - Hector Garcia-Molina 2008

Database Modeling and Design - Toby J. Teorey 1990
Shows techniques for managing the complexity of database design using the ER model, a popular method for representing data requirements. Presents a complete set of semantic definitions and notations for ER models with computer screen illustrations of large, complex databases. Includes both logical and physical database design with an emphasis on the former. Annotation copyrighted by Book News, Inc., Portland, OR

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

Managing Data in Motion - April Reeve 2013-02-26
Managing Data in Motion describes techniques that have been developed for significantly reducing the complexity of managing system interfaces and enabling scalable architectures. Author April Reeve brings over two decades of experience to present a vendor-neutral approach to moving data between computing environments and systems. Readers will learn the techniques, technologies, and best practices for managing the passage of data between computer systems and integrating disparate data together in an enterprise environment. The average enterprise's computing environment is comprised of hundreds to thousands computer systems that have been built, purchased, and acquired over time. The data from these various systems needs to be integrated for reporting and analysis, shared for business transaction processing, and converted from one format to another when old systems are replaced and new systems are acquired. The management of the "data in motion" in organizations is rapidly becoming one of the biggest concerns for business and IT management. Data warehousing and conversion, real-time data integration, and cloud and "big data" applications are just a few of the

challenges facing organizations and businesses today. Managing Data in Motion tackles these and other topics in a style easily understood by business and IT managers as well as programmers and architects. Presents a vendor-neutral overview of the different technologies and techniques for moving data between computer systems including the emerging solutions for unstructured as well as structured data types Explains, in non-technical terms, the architecture and components required to perform data integration Describes how to reduce the complexity of managing system interfaces and enable a scalable data architecture that can handle the dimensions of "Big Data"

Relational Database Design Clearly Explained - Jan L. Harrington 2002
Fully revised and updated, Relational Database Design, Second Edition is the most lucid and effective introduction to relational database design available. Here, you'll find the conceptual and practical information you need to develop a design that ensures data accuracy and user satisfaction while optimizing performance, regardless of your experience level or choice of DBMS. Supporting the book's step-by-step instruction are three case studies illustrating the planning, analysis, and design steps involved in arriving at a sound design. These real-world examples include object-relational design techniques, which are addressed in greater detail in a new chapter devoted entirely to this timely subject. * Concepts you need to master to put the book's practical instruction to work. * Methods for tailoring your design to the environment in which the database will run and the uses to which it will be put. * Design approaches that ensure data accuracy and consistency. * Examples of how design can inhibit or boost database application performance. * Object-relational design techniques, benefits, and examples. * Instructions on how to choose and use a normalization technique. * Guidelines for understanding and applying Codd's rules. * Tools to implement a relational design using SQL. * Techniques for using CASE tools for database design.

Physical Database Design - Sam S. Lightstone 2010-07-26
The rapidly increasing volume of information contained in relational databases places a strain on databases, performance, and maintainability: DBAs are under greater pressure than ever to optimize database structure for system performance and administration. Physical Database Design discusses the concept of how physical structures of databases affect performance, including specific examples, guidelines, and best and worst practices for a variety of DBMSs and configurations. Something as simple as improving the table index design has a profound impact on performance. Every form of relational database, such as Online Transaction Processing (OLTP), Enterprise Resource Management (ERP), Data Mining (DM), or Management Resource Planning (MRP), can be improved using the methods provided in the book. The first complete treatment on physical database design, written by the authors of the seminal, Database Modeling and Design: Logical Design, Fourth Edition Includes an introduction to the major concepts of physical database design as well as detailed examples, using methodologies and tools most popular for relational databases today: Oracle, DB2 (IBM), and SQL Server (Microsoft) Focuses on physical database design for exploiting B+tree indexing, clustered indexes, multidimensional clustering (MDC), range partitioning, shared nothing partitioning, shared disk data placement, materialized views, bitmap indexes, automated design tools, and more!

Temporal Data & the Relational Model - C.J. Date 2002-12-03
Temporal database systems are systems that provide special support for storing, querying, and updating historical and/or future data. Current DBMSs provide essentially no temporal features at all, but this situation is likely to change soon for a variety of reasons; in fact, temporal databases are virtually certain to become important sooner rather than later, in the commercial world as well as in academia. This book provides an in-depth description of the foundations and principles on which those temporal DBMSs will be built. These foundations and principles are firmly rooted in the relational model of data; thus, they represent an evolutionary step, not a revolutionary one, and they will stand the test of time. This book is arranged in three parts and a set of appendixes: * Preliminaries: Provides a detailed review of the relational model, and an overview of the Tutorial D language. * Laying the Foundations: Explains basic temporal data problems and introduces fundamental constructs and operators for addressing those problems. * Building on the Foundations: Applies the material of the previous part to issues of temporal database design, temporal constraints, temporal query and update, and much more. * Appendixes: Include annotated references and bibliography, implementation considerations, and other topics. Key features: * Describes a truly relational approach to the temporal data

problem. * Addresses implementation as well as model issues. * Covers recent research on new database design techniques, a new normal form, new relational operators, new update operators, a new approach to the problem of "granularity," support for "cyclic point types," and other matters. * Includes review questions and exercises in every chapter. * Suitable for both reference and tutorial purposes.

Object-oriented Database Design Clearly Explained - Jan L. Harrington 2000

Object-oriented database management systems are growing in popularity, thanks to changing corporate needs and the emergence of several viable products. However, while most database professionals have had at least some exposure to the basic concepts of object-oriented programming, information relating specifically to object-oriented databases has remained hard to come by. Object-Oriented Database Design Clearly Explained remedies this, providing developers and administrators with a ground-up understanding of the logical design of object-oriented databases. Focusing on the principles of the object paradigm while noting the particularities of specific products, this book will give readers the know-how required to produce effective designs in any environment. Key Features * Equips the reader with a sound understanding of the object paradigm and all key concepts, illustrating its points with three in-depth case * Presents product- and platform-neutral guidelines and advice, teaching readers the underlying object-oriented design principles they will need to apply regardless of the specific technology adopted * Details today's OODBMS standards and the variety of approaches taken by current products * Serves as a companion volume to Relational Database Design Clearly Explained, providing parallel examples that help to clarify relational and object-oriented data models

Data Warehousing and Analytics - David Taniar 2022-02-04
This textbook covers all central activities of data warehousing and analytics, including transformation, preparation, aggregation, integration, and analysis. It discusses the full spectrum of the journey of data from operational/transactional databases, to data warehouses and data analytics; as well as the role that data warehousing plays in the data processing lifecycle. It also explains in detail how data warehouses may be used by data engines, such as BI tools and analytics algorithms to produce reports, dashboards, patterns, and other useful information and knowledge. The book is divided into six parts, ranging from the basics of data warehouse design (Part I - Star Schema, Part II - Snowflake and Bridge Tables, Part III - Advanced Dimensions, and Part IV - Multi-Fact and Multi-Input), to more advanced data warehousing concepts (Part V - Data Warehousing and Evolution) and data analytics (Part VI - OLAP, BI, and Analytics). This textbook approaches data warehousing from the case study angle. Each chapter presents one or more case studies to thoroughly explain the concepts and has different levels of difficulty, hence learning is incremental. In addition, every chapter has also a section on further readings which give pointers and references to research papers related to the chapter. All these features make the book ideally suited for either introductory courses on data warehousing and data analytics, or even for self-studies by professionals. The book is accompanied by a web page that includes all the used datasets and codes as well as slides and solutions to exercises.

Database Modeling and Design - Toby J. Teorey 2011-02-10
Database Modeling and Design, Fifth Edition, focuses on techniques for database design in relational database systems. This extensively revised fifth edition features clear explanations, lots of terrific examples and an illustrative case, and practical advice, with design rules that are applicable to any SQL-based system. The common examples are based on real-life experiences and have been thoroughly class-tested. This book is immediately useful to anyone tasked with the creation of data models for the integration of large-scale enterprise data. It is ideal for a stand-alone data management course focused on logical database design, or a supplement to an introductory text for introductory database management. In-depth detail and plenty of real-world, practical examples throughout Loaded with design rules and illustrative case studies that are applicable to any SQL, UML, or XML-based system Immediately useful to anyone tasked with the creation of data models for the integration of large-scale enterprise data.

Database Design for Smarties - Robert J. Muller 1999-03-08
Craft the Right Design Using UML Whether building a relational, object-relational, or object-oriented database, database developers are increasingly relying on an object-oriented design approach as the best way to meet user needs and performance criteria. This book teaches you how to use the Unified Modeling Language-the official standard of the Object Management Group-to develop and implement the best possible design for your database. Inside, the author leads you step by step through the design process, from requirements analysis to schema generation. You'll learn to express stakeholder needs in UML use cases and actor diagrams, to translate UML entities into database components, and to transform the resulting design into relational, object-relational, and object-oriented schemas for all major DBMS products. Features Teaches you everything you need to know to design, build, and test databases using an OO model. Shows you how to use UML, the accepted standard for database design according to OO principles. Explains how to transform your design into a conceptual schema for relational, object-relational, and object-oriented DBMSs. Offers practical examples of design for Oracle, SQL Server, Sybase, Informix, Object Design, POET, and other database management systems. Focuses heavily on re-using design patterns for maximum productivity and teaches you how to certify completed designs for re-use.

Relational Database Design and Implementation - Jan L. Harrington 2016-04-15
Relational Database Design and Implementation: Clearly Explained, Fourth Edition, provides the conceptual and practical information necessary to develop a database design and management scheme that ensures data accuracy and user satisfaction while optimizing performance. Database systems underlie the large majority of business information systems. Most of those in use today are based on the relational data model, a way of representing data and data relationships using only two-dimensional tables. This book covers relational database theory as well as providing a solid introduction to SQL, the international standard for the relational database data manipulation language. The book begins by reviewing basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL. Topics such as the relational data model, normalization, data entities, and Codd's Rules (and why they are important) are covered clearly and concisely. In addition, the book looks at the impact of big data on relational databases and the option of using NoSQL databases for that purpose. Features updated and expanded coverage of SQL and new material on big data, cloud computing, and object-relational databases Presents design approaches that ensure data accuracy and consistency and help boost performance Includes three case studies, each illustrating a different database design challenge Reviews the basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL