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Database Design and Relational Theory - Chris Date 2012-04-17

Because databases often stay in production for decades, careful design is critical to making the database serve the needs of your users over years, and to avoid subtle errors or performance problems. In this book, CJ Date, a leading exponent of relational databases, lays out the principles of good database design.

ISE Database System Concepts - Abraham Silberschatz 2019-02-28

Database System Concepts by Silberschatz, Korth and Sudarshan is now

in its 7th edition and is one of the cornerstone texts of database education.

It presents the fundamental concepts of database management in an intuitive manner geared toward allowing students to begin working with databases as quickly as possible. The text is designed for a first course in databases at the junior/senior undergraduate level or the first year graduate level. It also contains additional material that can be used as supplements or as introductory material for an advanced course. Because the authors present concepts as intuitive descriptions, a familiarity with

basic data structures, computer organization, and a high-level programming language are the only prerequisites. Important theoretical results are covered, but formal proofs are omitted. In place of proofs, figures and examples are used to suggest why a result is true.

Introduction to Statistical Relational Learning - Lise Getoor 2007

In 'Introduction to Statistical Relational Learning', leading researchers in this emerging area of machine learning describe current formalisms, models, and algorithms that enable effective and robust reasoning about richly structured systems and data.

Data Management in Machine Learning Systems - Matthias Boehm

2019-02-25

Large-scale data analytics using machine learning (ML) underpins many modern data-driven applications. ML systems provide means of specifying and executing these ML workloads in an efficient and scalable manner.

Data management is at the heart of many ML systems due to data-driven application characteristics, data-centric workload characteristics, and system architectures inspired by classical data management techniques. In this book, we follow this data-centric view of ML systems and aim to provide a comprehensive overview of data management in ML systems for the end-to-end data science or ML lifecycle. We review multiple interconnected lines of work: (1) ML support in database (DB) systems, (2)

DB-inspired ML systems, and (3) ML lifecycle systems. Covered topics include: in-database analytics via query generation and user-defined functions, factorized and statistical-relational learning; optimizing compilers for ML workloads; execution strategies and hardware accelerators; data access methods such as compression, partitioning and indexing; resource elasticity and cloud markets; as well as systems for data preparation for ML, model selection, model management, model debugging, and model serving. Given the rapidly evolving field, we strive for a balance between an up-to-date survey of ML systems, an overview of the underlying concepts and techniques, as well as pointers to open research questions. Hence, this book might serve as a starting point for both systems researchers and developers.

Architecture of a Database System - Joseph M. Hellerstein 2007

Architecture of a Database System presents an architectural discussion of DBMS design principles, including process models, parallel architecture, storage system design, transaction system implementation, query processor and optimizer architectures, and typical shared components and utilities.

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.

Fundamentals of Database Systems - Ramez Elmasri 2004

This book combines clear explanations of theory and design, broad coverage of models and real systems, and excellent examples with up-to-date introductions to modern database technologies. Now in its third

edition, this book has been revised and updated to reflect the latest trends in technological and application development. - Introduces UML modeling and how it is used right alongside ER modeling. - Provides updated and expanded material on SQL including a new chapter, which discusses Web databases and SQL, including JDBC/ODBC. - Applies ideas from the book to a fully-developed case study that implements the data needed to design a bookstore. - Expanded coverage of important database topics like security, data warehousing, and data mining. - A new chapter featuring the relationship to XML and Internet databases keeps students on the edge of database technology. - Gives examples of real database systems. - Provides coverage of the object-oriented and object/relational approach to data management. - Includes discussion of decision support applications of data warehousing and data mining, as well as emerging technologies of web databases, multimedia, and mobile databases. - Covers a **Programming PHP** - Rasmus Lerdorf 2002-03-26

This is a comprehensive guide to PHP, a simple yet powerful language for creating dynamic web content. It is a detailed reference to the language and its applications, including such topics as form processing, sessions, databases, XML, and graphics and Covers PHP 4, the latest version.

Database Management Systems - P.S. Gill 2010-09-30

The book is intended to provide an insight into the DBMS concepts. An

effort has been made to familiarize the readers with the concepts of database normalization, concurrency control, deadlock handling and recovery etc., which are extremely vital for a clear understanding of DBMS. To familiarize the readers with the equivalence amongst Relational Algebra, Tuple Relational Calculus, and SQL, a large number of equivalent queries have been provided. The concepts of normalization have been elaborated very systematically by fully covering the underlying concepts of functional dependencies, multi-valued dependencies, join dependencies, loss-less-join decomposition, dependency-preserving decomposition etc. It is hoped that with the help of the information provided in the text, a reader will be able to design a flawless database. Also, the concepts of serializability, concurrency control, deadlock handling and log-based recovery have been covered in full detail. An overview has also been provided of the issues related to distributed-databases.

Advanced Database Systems - Nabil R. Adam 1993-12-08

Database management is attracting wide interest in both academic and industrial contexts. New application areas such as CAD/CAM, geographic information systems, and multimedia are emerging. The needs of these application areas are far more complex than those of conventional business applications. The purpose of this book is to bring together a set of current research issues that addresses a broad spectrum of topics

related to database systems and applications. The book is divided into four parts: - object-oriented databases, - temporal/historical database systems, - query processing in database systems, - heterogeneity, interoperability, open system architectures, multimedia database systems.

Database Systems - Michael Kifer 2006

This textbook explains the conceptual and engineering principles of database design. Rather than focusing on how to implement a database management system, it focuses on building applications, and the theory underlying relational databases and relational query languages. An ongoing case study illustrates both database and software engineering concepts. Originally published as *Databases and transaction processing* by Pearson Education in 2002; the second edition adds a chapter on database tuning and a section on UML. Annotation : 2004 Book News, Inc., Portland, OR (booknews.com).

Core Java SE 9 for the Impatient - Cay S. Horstmann 2017-09-15

An Accessible Guide to the Java Language and Libraries Modern Java introduces major enhancements that impact the core Java technologies and APIs at the heart of the Java platform. Many old Java idioms are no longer needed and new features such as modularization make you far more effective. However, navigating these changes can be challenging. Core Java® SE 9 for the Impatient, Second Edition, is a complete yet

concise guide that includes all the latest changes up to Java SE 9. Written by Cay S. Horstmann—author of the classic two-volume *Core Java*—this indispensable tutorial offers a faster, easier pathway for learning modern Java. Given Java SE 9’s size and the scope of its enhancements, there’s plenty to cover, but it’s presented in small chunks organized for quick access and easy understanding. Horstmann’s practical insights and sample code help you quickly take advantage of all that’s new, from Java SE 9’s long-awaited “Project Jigsaw” module system to the improvements first introduced in Java SE 8, including lambda expressions and streams. Use modules to simplify the development of well-performing complex systems Migrate applications to work with the modularized Java API and third-party modules Test code as you create it with the new JShell Read-Eval-Print Loop (REPL) Use lambda expressions to express actions more concisely Streamline and optimize data management with today’s Streams API Leverage modern concurrent programming based on cooperating tasks Take advantage of a multitude of API improvements for working with collections, input/output, regular expressions, and processes Whether you’re just getting started with modern Java or you’re an experienced developer, this guide will help you write tomorrow’s most robust, efficient, and secure Java code. Register your product at informit.com/register for convenient access to downloads, updates, and/or corrections as they

become available.

Fundamentals of Database Management Systems, 2nd Edition - Mark L. Gillenson 2011-11-15

This lean, focused text concentrates on giving students a clear understanding of database fundamentals while providing a broad survey of all the major topics of the field. The result is a text that is easily covered in one semester, and that only includes topics relevant to the database course. Mark Gillenson, an associate editor of the *Journal of Database Management*, has 15 years experience of working with and teaching at IBM Corp. and 15 years of teaching experience at the college level. He writes in a clear, friendly style that progresses step-by-step through all of the major database topics. Each chapter begins with a story about a real company's database application, and is packed with examples. When students finish the text, they will be able to immediately apply what they've learned in business.

[Constraints and Databases](#) - Raghu Ramakrishnan 1997-12-31

Constraints and Databases contains seven contributions on the rapidly evolving research area of constraints and databases. This collection of original research articles has been compiled as a tribute to Paris C. Kanellakis, one of the pioneers in the field. Constraints have long been used for maintaining the integrity of databases. More recently, constraint

databases have emerged where databases store and manipulate data in the form of constraints. The generality of constraint databases makes them highly attractive for many applications. Constraints provide a uniform mechanism for describing heterogeneous data, and advanced constraint solving methods can be used for efficient manipulation of constraint data. The articles included in this book cover the range of topics involving constraints and databases; join algorithms, evaluation methods, applications (e.g. data mining) and implementations of constraint databases, as well as more traditional topics such as integrity constraint maintenance. Constraints and Databases is an edited volume of original research comprising invited contributions by leading researchers.

Querying XML - Jim Melton 2011-04-08

XML has become the lingua franca for representing business data, for exchanging information between business partners and applications, and for adding structure— and sometimes meaning—to text-based documents. XML offers some special challenges and opportunities in the area of search: querying XML can produce very precise, fine-grained results, if you know how to express and execute those queries. For software developers and systems architects: this book teaches the most useful approaches to querying XML documents and repositories. This book will also help managers and project leaders grasp how “querying XML fits into

the larger context of querying and XML. Querying XML provides a comprehensive background from fundamental concepts (What is XML?) to data models (the Infoset, PSVI, XQuery Data Model), to APIs (querying XML from SQL or Java) and more. * Presents the concepts clearly, and demonstrates them with illustrations and examples; offers a thorough mastery of the subject area in a single book. * Provides comprehensive coverage of XML query languages, and the concepts needed to understand them completely (such as the XQuery Data Model). * Shows how to query XML documents and data using: XPath (the XML Path Language); XQuery, soon to be the new W3C Recommendation for querying XML; XQuery's companion XQueryX; and SQL, featuring the SQL/XML * Includes an extensive set of XQuery, XPath, SQL, Java, and other examples, with links to downloadable code and data samples.

Database System Concepts - Abraham Silberschatz 2011

Presents the fundamental concepts of database management. This text is suitable for a first course in databases at the junior/senior undergraduate level or the first year graduate level.

Principles of Distributed Database Systems - M. Tamer Özsu 2011-02-24

This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels. The material concentrates on fundamental theories as well as techniques and algorithms. The advent of

the Internet and the World Wide Web, and, more recently, the emergence of cloud computing and streaming data applications, has forced a renewal of interest in distributed and parallel data management, while, at the same time, requiring a rethinking of some of the traditional techniques. This book covers the breadth and depth of this re-emerging field. The coverage consists of two parts. The first part discusses the fundamental principles of distributed data management and includes distribution design, data integration, distributed query processing and optimization, distributed transaction management, and replication. The second part focuses on more advanced topics and includes discussion of parallel database systems, distributed object management, peer-to-peer data management, web data management, data stream systems, and cloud computing. New in this Edition: • New chapters, covering database replication, database integration, multidatabase query processing, peer-to-peer data management, and web data management. • Coverage of emerging topics such as data streams and cloud computing • Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available.

Next Generation Databases - Guy Harrison 2015-12-30

"It's not easy to find such a generous book on big data and databases. Fortunately, this book is the one." Feng Yu. Computing Reviews. June 28,

2016. This is a book for enterprise architects, database administrators, and developers who need to understand the latest developments in database technologies. It is the book to help you choose the correct database technology at a time when concepts such as Big Data, NoSQL and NewSQL are making what used to be an easy choice into a complex decision with significant implications. The relational database (RDBMS) model completely dominated database technology for over 20 years. Today this "one size fits all" stability has been disrupted by a relatively recent explosion of new database technologies. These paradigm-busting technologies are powering the "Big Data" and "NoSQL" revolutions, as well as forcing fundamental changes in databases across the board. Deciding to use a relational database was once truly a no-brainer, and the various commercial relational databases competed on price, performance, reliability, and ease of use rather than on fundamental architectures. Today we are faced with choices between radically different database technologies. Choosing the right database today is a complex undertaking, with serious economic and technological consequences. *Next Generation Databases* demystifies today's new database technologies. The book describes what each technology was designed to solve. It shows how each technology can be used to solve real word application and business problems. Most importantly, this book highlights the architectural

differences between technologies that are the critical factors to consider when choosing a database platform for new and upcoming projects.

Introduces the new technologies that have revolutionized the database landscape Describes how each technology can be used to solve specific application or business challenges Reviews the most popular new wave databases and how they use these new database technologies

High-Dimensional Indexing - Cui Yu 2003-08-01

In this monograph, we study the problem of high-dimensional indexing and systematically introduce two efficient index structures: one for range queries and the other for similarity queries. Extensive experiments and comparison studies are conducted to demonstrate the superiority of the proposed indexing methods. Many new database applications, such as multimedia databases or stock price information systems, transform important features or properties of data objects into high-dimensional points. Searching for objects based on these features is thus a search of points in this feature space. To support efficient retrieval in such high-dimensional databases, indexes are required to prune the search space. Indexes for low-dimensional databases are well studied, whereas most of these application specific indexes are not scaleable with the number of dimensions, and they are not designed to support similarity searches and high-dimensional joins.

Real-Time Database Systems - Azer Bestavros 2012-12-06

Despite the growing interest in Real-Time Database Systems, there is no single book that acts as a reference to academics, professionals, and practitioners who wish to understand the issues involved in the design and development of RTDBS. *Real-Time Database Systems: Issues and Applications* fulfills this need. This book presents the spectrum of issues that may arise in various real-time database applications, the available solutions and technologies that may be used to address these issues, and the open problems that need to be tackled in the future. With rapid advances in this area, several concepts have been proposed without a widely accepted consensus on their definitions and implications. To address this need, the first chapter is an introduction to the key RTDBS concepts and definitions, which is followed by a survey of the state of the art in RTDBS research and practice. The remainder of the book consists of four sections: models and paradigms, applications and benchmarks, scheduling and concurrency control, and experimental systems. The chapters in each section are contributed by experts in the respective areas. *Real-Time Database Systems: Issues and Applications* is primarily intended for practicing engineers and researchers working in the growing area of real-time database systems. For practitioners, the book will provide a much needed bridge for technology transfer and continued education.

For researchers, this book will provide a comprehensive reference for well-established results. This book can also be used in a senior or graduate level course on real-time systems, real-time database systems, and database systems or closely related courses.

Database Management Systems - Raghu Ramakrishnan 1998

This introductory database text takes a hands-on approach to relational database systems, emphasizing both conceptual and physical database design and tuning.

Database Internals - Alex Petrov 2019-09-13

When it comes to choosing, using, and maintaining a database, understanding its internals is essential. But with so many distributed databases and tools available today, it's often difficult to understand what each one offers and how they differ. With this practical guide, Alex Petrov guides developers through the concepts behind modern database and storage engine internals. Throughout the book, you'll explore relevant material gleaned from numerous books, papers, blog posts, and the source code of several open source databases. These resources are listed at the end of parts one and two. You'll discover that the most significant distinctions among many modern databases reside in subsystems that determine how storage is organized and how data is distributed. This book examines: Storage engines: Explore storage classification and taxonomy,

and dive into B-Tree-based and immutable Log Structured storage engines, with differences and use-cases for each Storage building blocks: Learn how database files are organized to build efficient storage, using auxiliary data structures such as Page Cache, Buffer Pool and Write-Ahead Log Distributed systems: Learn step-by-step how nodes and processes connect and build complex communication patterns Database clusters: Which consistency models are commonly used by modern databases and how distributed storage systems achieve consistency

Database Management Systems - Raghu Ramakrishnan 2000

Database Management Systems provides comprehensive and up-to-date coverage of the fundamentals of database systems. Coherent explanations and practical examples have made this one of the leading texts in the field. The third edition continues in this tradition, enhancing it with more practical material. The new edition has been reorganized to allow more flexibility in the way the course is taught. Now, instructors can easily choose whether they would like to teach a course which emphasizes database application development or a course that emphasizes database systems issues. New overview chapters at the beginning of parts make it possible to skip other chapters in the part if you don't want the detail. More applications and examples have been added throughout the book, including SQL and Oracle examples. The applied flavor is further

enhanced by the two new database applications chapters.

Applications of Logic Databases - Raghu Ramakrishnan 2012-12-06

The premise behind developing powerful declarative database languages is compelling: by enabling users to specify their queries (and their integrity constraints) in a clear, non-operational way, they make the user's task easier, and provide the database system with more opportunities for optimization. Relational database systems offer a striking proof that this premise is indeed valid. The most popular relational query language, SQL, is based upon relational algebra and calculus, i.e., a small fragment of first-order logic, and the ease of writing queries in SQL (in comparison to more navigational languages) has been an important factor in the commercial success of relational databases. It is well-known that SQL has some important limitations, in spite of its success and popularity. Notably, the query language is non-recursive, and support for integrity constraints is limited. Indeed, recognizing these problems, the latest standard, SQL-92, provides increased support for integrity constraints, and it is anticipated that the successor to the SQL-92 standard, called SQL3, RECURSIVE UNION operation [1]. Logic database systems have will include a concentrated on these extensions to the relational database paradigm, and some systems (e.g., Bull's DEL prototype) have even incorporated object-oriented features (another extension likely to appear in SQL3).

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

An Introduction to Database Systems - C. J. Date 2000

For over 25 years, C. J. Date's *An Introduction to Database Systems* has been the authoritative resource for readers interested in gaining insight into and understanding of the principles of database systems. This exciting revision continues to provide a solid grounding in the foundations of database technology and to provide some ideas as to how the field is likely to develop in the future. The material is organized into six major parts. Part I provides a broad introduction to the concepts of database systems in general and relational systems in particular. Part II consists of a careful description of the relational model, which is the theoretical foundation for the database field as a whole. Part III discusses the general theory of database design. Part IV is concerned with transaction management. Part V shows how relational concepts are relevant to a variety of further aspects of database technology—security, distributed databases, temporal data, decision support, and so on. Finally, Part VI describes the impact of object technology on database systems. This Seventh Edition of *An Introduction to Database Systems* features widely rewritten material to improve and amplify treatment o

Deductive and Object-Oriented Databases - Francois Bry 1997-11-12

This book constitutes the refereed proceedings of the 5th International Conference on Deductive and Object-Oriented Databases, DOOD'97, held in Montreux, Switzerland, in December 1997. The 22 revised full papers presented in this book were selected from a total of 59 submissions. Also included are abstracts or full versions of three invited talks and three tutorials and six short presentations. The papers are organized in topical sections on materialized view maintenance, extending DBMs features, database updates, managing change in object databases, semantics of active databases, formal semantics, and new directions.

Principles of Database Management - Wilfried Lemahieu 2018-07-12
Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

Database System Implementation - Garcia-Molina 2000-09

Database Management Systems - Raghu Ramakrishnan 2002-09-01
Database Management Systems provides comprehensive and up-to-date coverage of the fundamentals of database systems. Coherent explanations and practical examples have made this one of the leading texts in the field. The third edition continues in this tradition, enhancing it with more practical material. The new edition has been reorganized to allow more

flexibility in the way the course is taught. Now, instructors can easily choose whether they would like to teach a course which emphasizes database application development or a course that emphasizes database systems issues. New overview chapters at the beginning of parts make it possible to skip other chapters in the part if you don't want the detail. More applications and examples have been added throughout the book, including SQL and Oracle examples. The applied flavor is further enhanced by the two new database applications chapters.

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

Patterns in Data Management - Jens Dittrich 2016-02-03

This book is not a standard textbook. This book was written extending and complementing preexisting educational videos I designed and recorded in winter 2013/14. The main goal of these videos was to use them in my flipped classroom "Database Systems" which is an intermediate-level university course designed for B.Sc. students in their third year or M.Sc. students of computer science and related disciplines. Though in general my students liked both the flipped classroom model and (most of) the videos, several students asked for an additional written script that would allow them to quickly lookup explanations for material in text that would otherwise be hard to re-find in the videos. Therefore, in spring 2015, I

started working on such a course script which more and more evolved into something that I feel comfortable calling it a book. One central question I had to confront was: would I repeat all material from the videos in the textbook? In other words, would the book be designed to work without the videos? I quickly realized that writing such an old-fashioned text-oriented book, a "textbook", wouldn't be the appropriate thing to do anymore in 2015. My videos as well as the accompanying material are freely available to everyone anyways. And unless you are sitting on the local train from Saarbrücken to Neustadt, you will almost always have Internet access to watch them. In fact, downloading the videos in advance isn't terribly hard anyway. This observation changed the original purpose of what this book would be good for: not so much the primary source of the course's content, but a different view on that content, explaining that content where possible in other words. In addition, one goal was to be concise in the textual explanations allowing you to quickly re-find and remember things you learned from the videos without going through a large body of text.

Readings in Database Systems - Joseph M. Hellerstein 2005

The latest edition of a popular text and reference on database research, with substantial new material and revision; covers classical literature and recent hot topics. Lessons from database research have been applied in academic fields ranging from bioinformatics to next-generation Internet

architecture and in industrial uses including Web-based e-commerce and search engines. The core ideas in the field have become increasingly influential. This text provides both students and professionals with a grounding in database research and a technical context for understanding recent innovations in the field. The readings included treat the most important issues in the database area--the basic material for any DBMS professional. This fourth edition has been substantially updated and revised, with 21 of the 48 papers new to the edition, four of them published for the first time. Many of the sections have been newly organized, and each section includes a new or substantially revised introduction that discusses the context, motivation, and controversies in a particular area, placing it in the broader perspective of database research. Two introductory articles, never before published, provide an organized, current introduction to basic knowledge of the field; one discusses the history of data models and query languages and the other offers an architectural overview of a database system. The remaining articles range from the classical literature on database research to treatments of current hot topics, including a paper on search engine architecture and a paper on application servers, both written expressly for this edition. The result is a collection of papers that are seminal and also accessible to a reader who has a basic familiarity with database systems.

Dive Into Systems - Suzanne J. Matthews 2022-09-20

Dive into Systems is a vivid introduction to computer organization, architecture, and operating systems that is already being used as a classroom textbook at more than 25 universities. This textbook is a crash course in the major hardware and software components of a modern computer system. Designed for use in a wide range of introductory-level computer science classes, it guides readers through the vertical slice of a computer so they can develop an understanding of the machine at various layers of abstraction. Early chapters begin with the basics of the C programming language often used in systems programming. Other topics explore the architecture of modern computers, the inner workings of operating systems, and the assembly languages that translate human-readable instructions into a binary representation that the computer understands. Later chapters explain how to optimize code for various architectures, how to implement parallel computing with shared memory, and how memory management works in multi-core CPUs. Accessible and easy to follow, the book uses images and hands-on exercise to break down complicated topics, including code examples that can be modified and executed.

MySQL Reference Manual - Michael Widenius 2002

This comprehensive reference guide offers useful pointers for advanced

use of SQL and describes the bugs and workarounds involved in compiling MySQL for every system.

Principles of Data Integration - AnHai Doan 2012-06-25

How do you approach answering queries when your data is stored in multiple databases that were designed independently by different people? This is first comprehensive book on data integration and is written by three of the most respected experts in the field. This book provides an extensive introduction to the theory and concepts underlying today's data integration techniques, with detailed, instruction for their application using concrete examples throughout to explain the concepts. Data integration is the problem of answering queries that span multiple data sources (e.g., databases, web pages). Data integration problems surface in multiple contexts, including enterprise information integration, query processing on the Web, coordination between government agencies and collaboration between scientists. In some cases, data integration is the key bottleneck to making progress in a field. The authors provide a working knowledge of data integration concepts and techniques, giving you the tools you need to develop a complete and concise package of algorithms and applications. Offers a range of data integration solutions enabling you to focus on what is most relevant to the problem at hand Enables you to build your own algorithms and implement your own data integration applications

Transactional Information Systems - Gerhard Weikum 2001-05-30

Transactional Information Systems is the long-awaited, comprehensive work from leading scientists in the transaction processing field. Weikum and Vossen begin with a broad look at the role of transactional technology in today's economic and scientific endeavors, then delve into critical issues faced by all practitioners, presenting today's most effective techniques for controlling concurrent access by multiple clients, recovering from system failures, and coordinating distributed transactions. The authors emphasize formal models that are easily applied across fields, that promise to remain valid as current technologies evolve, and that lend themselves to generalization and extension in the development of new classes of network-centric, functionally rich applications. This book's purpose and achievement is the presentation of the foundations of transactional systems as well as the practical aspects of the field what will help you meet today's challenges. Provides the most advanced coverage of the topic available anywhere--along with the database background required for you to make full use of this material. Explores transaction processing both generically as a broadly applicable set of information technology practices and specifically as a group of techniques for meeting the goals of your enterprise. Contains information essential to developers of Web-based e-Commerce functionality--and a wide range of more "traditional"

applications. Details the algorithms underlying core transaction processing functionality.

Database Systems - Catherine M. Ricardo 1990

A First Course in Database Systems - Jeffrey D. Ullman 2013-08-29

For Database Systems and Database Design and Application courses offered at the junior, senior, and graduate levels in Computer Science departments. Written by well-known computer scientists, this accessible and succinct introduction to database systems focuses on database design and use. The authors provide in-depth coverage of databases from the point of view of the database designer, user, and application programmer, leaving implementation for later courses. It is the first database systems text to cover such topics as UML, algorithms for manipulating dependencies in relations, extended relational algebra, PHP, 3-tier architectures, data cubes, XML, XPATH, XQuery, XSLT. The full text downloaded to your computer With eBooks you can: search for key concepts, words and phrases make highlights and notes as you study share your notes with friends eBooks are downloaded to your computer and accessible either offline through the Bookshelf (available as a free download), available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit The eBooks

products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed.

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.