

Sql 1999 Understanding Relational Language Components The Morgan Kaufmann Series In Data Management Systems

Whether you are a software developer, systems architect, data analyst, or business analyst, if you want to take advantage of data mining in the development of advanced analytic applications, Java Data Mining, JDM, the new standard now implemented in core DBMS and data mining/analysis software, is a key solution component. This book is the essential guide to the usage of the JDM standard interface, written by contributors to the JDM standard. Data mining introduction - an overview of data mining and the problems it can address across industries; JDM's place in strategic solutions to data mining-related problems JDM essentials - concepts, design approach and design issues, with detailed code examples in Java; a Web Services interface to enable JDM functionality in an SOA environment; and illustration of JDM XML Schema for JDM objects JDM in practice - the use of JDM from vendor implementations and approaches to customer applications, integration, and usage; impact of data mining on IT infrastructure; a how-to guide for building applications that use the JDM API Free, downloadable KJDM source code referenced in the book available here

This monograph presents the fundamentals of object databases, with a specific focus on conceptual modeling of object database designs. After an introduction to the fundamental concepts of object-oriented data, the monograph provides a review of object-oriented conceptual modeling techniques using side-by-side Enhanced Entity Relationship diagrams and Unified Modeling Language conceptual class diagrams that feature class hierarchies with specialization constraints and object associations. These object-oriented conceptual models provide the basis for introducing case studies that illustrate the use of object features within the design of object-oriented and object-relational databases. For the object-oriented database perspective, the Object Data Management Group data definition language provides a portable, language-independent specification of an object schema, together with an SQL-like object query language. LINQ (Language INtegrated Query) is presented as a case study of an object query language together with its use in the db4o open-source object-oriented database. For the object-relational perspective, the object-relational features of the SQL standard are presented together with an accompanying case study of the object-relational features of Oracle. For completeness of coverage, an appendix provides a mapping of object-oriented conceptual designs to the relational model and its associated constraints."--P. [4] of cover.

Fuzzy Modeling and Genetic Algorithms for Data Mining and Exploration is a handbook for analysts, engineers, and managers involved in developing data mining models in business and government. As you'll discover, fuzzy systems are extraordinarily valuable tools for representing and manipulating all kinds of data, and genetic algorithms and evolutionary programming techniques drawn from biology provide the most effective means for designing and tuning these systems. You don't need a background in fuzzy modeling or genetic algorithms to benefit, for this book provides it, along with detailed instruction in methods that you can immediately put to work in your own projects. The author provides many diverse examples and also an extended example in which evolutionary strategies are used to create a complex scheduling system. Written to provide analysts, engineers, and managers with the background and specific instruction needed to develop and implement more effective data mining systems Helps you to understand the trade-offs implicit in various models and model architectures Provides extensive coverage of fuzzy SQL querying, fuzzy clustering, and fuzzy rule induction Lays out a roadmap for exploring data, selecting model system measures, organizing adaptive feedback loops, selecting a model configuration, implementing a working model, and validating the final model In an extended example, applies evolutionary programming techniques to solve a complicated scheduling problem Presents examples in C, C++, Java, and easy-to-understand pseudo-code Extensive online component, including sample code and a complete data mining workbench

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.

The most prominent Web applications in use today are data-intensive. Scores of database management systems across the Internet access and maintain large amounts of structured data for e-commerce, on-line trading, banking, digital libraries, and other high-volume sites. Developing and maintaining these data-intensive applications is an especially complex, multi-disciplinary activity, requiring all the tools and techniques that software engineering can provide. This book represents a breakthrough for Web application developers. Using hundreds of illustrations and an elegant intuitive modeling language, the authors—all internationally-known database researchers—present a methodology that fully exploits the conceptual modeling approach of software engineering, from idea to application. Readers will learn not only how to harness the design technologies of relational databases for use on the Web, but also how to transform their conceptual designs of data-intensive Web applications into effective software components. * A fully self-contained introduction and practitioner's guide suitable for both technical and non-technical members of staff, as well as students. * A methodology,

development process, and notation (WebML) based on common practice but optimized for the unique challenges of high-volume Web applications. * Completely platform- and product-independent; even the use of WebML is optional. * Based on well-known industry standards such as UML and the Entity Relationship Model. * Enhanced by its own Web site (<http://www.webml.org>), containing additional examples, papers, teaching materials, developers' resources, and exercises with solutions.

SQL: 1999 Understanding Relational Language Components Morgan Kaufmann

There is no other manual for the over 200,000 database administrators using Visio.

This guide documents SQL: 1999's advanced features in the same practical, "programmercentric" way that the first volume documented the language's basic features. This is no mere representation of the standard, but rather authoritative guidance on making an application conform to it, both formally and effectively.

With this textbook, Vaisman and Zimányi deliver excellent coverage of data warehousing and business intelligence technologies ranging from the most basic principles to recent findings and applications. To this end, their work is structured into three parts. Part I describes "Fundamental Concepts" including multi-dimensional models; conceptual and logical data warehouse design and MDX and SQL/OLAP. Subsequently, Part II details "Implementation and Deployment," which includes physical data warehouse design; data extraction, transformation, and loading (ETL) and data analytics. Lastly, Part III covers "Advanced Topics" such as spatial data warehouses; trajectory data warehouses; semantic technologies in data warehouses and novel technologies like Map Reduce, column-store databases and in-memory databases. As a key characteristic of the book, most of the topics are presented and illustrated using application tools. Specifically, a case study based on the well-known Northwind database illustrates how the concepts presented in the book can be implemented using Microsoft Analysis Services and Pentaho Business Analytics. All chapters are summarized using review questions and exercises to support comprehensive student learning. Supplemental material to assist instructors using this book as a course text is available at <http://cs.ulb.ac.be/DWSDIbook/>, including electronic versions of the figures, solutions to all exercises, and a set of slides accompanying each chapter. Overall, students, practitioners and researchers alike will find this book the most comprehensive reference work on data warehouses, with key topics described in a clear and educational style.

Data Mining, Second Edition, describes data mining techniques and shows how they work. The book is a major revision of the first edition that appeared in 1999. While the basic core remains the same, it has been updated to reflect the changes that have taken place over five years, and now has nearly double the references. The highlights of this new edition include thirty new technique sections; an enhanced Weka machine learning workbench, which now features an interactive interface; comprehensive information on neural networks; a new section on Bayesian networks; and much more. This text is designed for information systems practitioners, programmers, consultants, developers, information technology managers, specification writers as well as professors and students of graduate-level data mining and machine learning courses. Algorithmic methods at the heart of successful data mining—including tried and true techniques as well as leading edge methods Performance improvement techniques that work by transforming the input or output 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.

Joe Celko has looked deep into the code of SQL programmers and found a consistent and troubling pattern - a frightening lack of consistency between their individual encoding schemes and those of the industries in which they operate. This translates into a series of incompatible databases, each one an island unto itself that is unable to share information with others in an age of internationalization and business interdependence. Such incompatibility severely hinders information flow and the quality of company data. Data, Measurements and Standards in SQL reveals the shift these programmers need to make to overcome this deadlock. By collecting and detailing the diverse standards of myriad industries, and then giving a declaration for the units that can be used in an SQL schema, Celko enables readers to write and implement portable data that can interface to any number of external application systems! This book doesn't limit itself to one subject, but serves as a detailed synopsis of measurement scales and data standards for all industries, thereby giving RDBMS programmers and designers the knowledge and know-how they need to communicate effectively across business boundaries. * Collects and details the diverse data standards of myriad industries under one cover, thereby creating a definitive, one-stop-shopping opportunity for database programmers. * Enables readers to write and implement portable data that can interface to any number external application systems, allowing readers to cross business boundaries and move up the career ladder. * Expert advice from one of the most-read SQL authors in the world who is well known for his ten years of service on the ANSI SQL standards committee and Readers Choice Award winning column in Intelligent Enterprise.

From environmental management to land planning and geo-marketing, the number of application domains that may greatly benefit from using data enriched with spatio-temporal features is expanding very rapidly. This book shows that a conceptual design approach for spatio-temporal databases is both feasible and easy to apprehend. While providing a firm basis through extensive discussion of traditional data modeling concepts, the major focus of the book is on modeling spatial and temporal information.

This book offers a comprehensive introduction to relational (SQL) and non-relational (NoSQL) databases. The authors thoroughly review the current state of database tools and techniques, and examine coming innovations. The book opens with a broad look at data management, including an overview of information systems and databases, and an explanation of contemporary database types: SQL and NoSQL databases, and their respective management systems The nature and uses of Big Data A high-level view of the

organization of data management Data Modeling and Consistency Chapter-length treatment is afforded Data Modeling in both relational and graph databases, including enterprise-wide data architecture, and formulas for database design. Coverage of languages extends from an overview of operators, to SQL and and QBE (Query by Example), to integrity constraints and more. A full chapter probes the challenges of Ensuring Data Consistency, covering: Multi-User Operation Troubleshooting Consistency in Massive Distributed Data Comparison of the ACID and BASE consistency models, and more System Architecture also gets from its own chapter, which explores Processing of Homogeneous and Heterogeneous Data; Storage and Access Structures; Multi-dimensional Data Structures and Parallel Processing with MapReduce, among other topics. Post-Relational and NoSQL Databases The chapter on post-relational databases discusses the limits of SQL – and what lies beyond, including Multi-Dimensional Databases, Knowledge Bases and and Fuzzy Databases. A final chapter covers NoSQL Databases, along with Development of Non-Relational Technologies, Key-Value, Column-Family and Document Stores XML Databases and Graphic Databases, and more The book includes more than 100 tables, examples and illustrations, and each chapter offers a list of resources for further reading. SQL & NoSQL Databases conveys the strengths and weaknesses of relational and non-relational approaches, and shows how to undertake development for big data applications. The book benefits readers including students and practitioners working across the broad field of applied information technology. This textbook has been recommended and developed for university courses in Germany, Austria and Switzerland.

"Focused on the latest research on text and document management, this guide addresses the information management needs of organizations by providing the most recent findings. How the need for effective databases to house information is impacting organizations worldwide and how some organizations that possess a vast amount of data are not able to use the data in an economic and efficient manner is demonstrated. A taxonomy for object-oriented databases, metrics for controlling database complexity, and a guide to accommodating hierarchies in relational databases are provided. Also covered is how to apply Java-triggers for X-Link management and how to build signatures."

Data Warehousing and Mining (DWM) is the science of managing and analyzing large datasets and discovering novel patterns and in recent years has emerged as a particularly exciting and industrially relevant area of research. Prodigious amounts of data are now being generated in domains as diverse as market research, functional genomics and pharmaceuticals; intelligently analyzing these data, with the aim of answering crucial questions and helping make informed decisions, is the challenge that lies ahead. The Encyclopedia of Data Warehousing and Mining provides a comprehensive, critical and descriptive examination of concepts, issues, trends, and challenges in this rapidly expanding field of data warehousing and mining (DWM). This encyclopedia consists of more than 350 contributors from 32 countries, 1,800 terms and definitions, and more than 4,400 references. This authoritative publication offers in-depth coverage of evolutions, theories, methodologies, functionalities, and applications of DWM in such interdisciplinary industries as healthcare informatics, artificial intelligence, financial modeling, and applied statistics, making it a single source of knowledge and latest discoveries in the field of DWM.

Computing Handbook, Third Edition: Information Systems and Information Technology demonstrates the richness and breadth of the IS and IT disciplines. The second volume of this popular handbook explores their close links to the practice of using, managing, and developing IT-based solutions to advance the goals of modern organizational environments. Established leading experts and influential young researchers present introductions to the current status and future directions of research and give in-depth perspectives on the contributions of academic research to the practice of IS and IT development, use, and management Like the first volume, this second volume describes what occurs in research laboratories, educational institutions, and public and private organizations to advance the effective development and use of computers and computing in today's world. Research-level survey articles provide deep insights into the computing discipline, enabling readers to understand the principles and practices that drive computing education, research, and development in the twenty-first century.

Business organizations develop strategies and set targets which focus on maximizing profit, reduce cost, improving customer satisfaction & retention and operational performance. In order to achieve the set targets, organizations need to continuously monitor status of organizational performance. Organizations need to collect, store, organize, transform the data to know the current status of set targets. Business Intelligence tools help the organizations to draw meaningful and actionable insights from the raw data in achieving the set targets. Business Intelligence tools help the organizations to answer questions such as where the organization stands in terms of profitability, growth status, brand & market position and market segment. Business intelligence tools focuses mainly on the past or current data and try to explore the hidden insight from the data. Business intelligence tools include querying, reporting, online analytics and data visualization tools which help the business decision makers to arrive at informed decision about the impact and status of their strategies. This book starts with the introduction of business intelligence concepts, components of business intelligence system, business intelligence tools used for querying, reporting and visualization of data. It provides an overview of the data visualization and data mining methods like classification, clustering and regression methods using R open source software. Book also covers some of the basic descriptive and inferential statistical tools. It focuses on both managerial side and technological side of BI. Vinaitheerthan Renganathan www.vinaitheerthan.com/book.php

Research and development surrounding the use of data queries is receiving increased attention from computer scientists and data specialists alike. Through the use of query technology, large volumes of data in databases can be retrieved, and information systems built based on databases can support problem solving and decision making across industries. The Handbook of Research on Innovative Database Query Processing Techniques focuses on the growing topic of database query processing methods, technologies, and applications. Aimed at providing an

all-inclusive reference source of technologies and practices in advanced database query systems, this book investigates various techniques, including database and XML queries, spatiotemporal data queries, big data queries, metadata queries, and applications of database query systems. This comprehensive handbook is a necessary resource for students, IT professionals, data analysts, and academicians interested in uncovering the latest methods for using queries as a means to extract information from databases. This all-inclusive handbook includes the latest research on topics pertaining to information retrieval, data extraction, data management, design and development of database queries, and database and XM queries. 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.

Location-based services (LBS) are a new concept integrating a user's geographic location with the general notion of services, such as dialing an emergency number from a cell phone or using a navigation system in a car. Incorporating both mobile communication and spatial data, these applications represent a novel challenge both conceptually and technically. The purpose of this book is to describe, in an accessible fashion, the various concepts underlying mobile location-based services. These range from general application-related ideas to technical aspects. Each chapter starts with a high level of abstraction and drills down to the technical details. Contributors examine each application from all necessary perspectives, namely, requirements, services, data, and scalability. An illustrative example begins early in the book and runs throughout, serving as a reference. · This book defines the LBS field and identifies its capabilities, challenges, and technologies. · The contributors are recognized experts from academia and industry. · Coverage includes navigation systems, middleware, interoperability, standards, and mobile communications. · A sample application, the "find-friend" application, is used throughout the book to integrate the concepts discussed in each chapter.

Joe Celkos SQL for Smarties: Advanced SQL Programming offers tips and techniques in advanced programming. This book is the fourth edition and it consists of 39 chapters, starting with a comparison between databases and file systems. It covers transactions and currency control, schema level objects, locating data and schema numbers, base tables, and auxiliary tables. Furthermore, procedural, semi-procedural, and declarative programming are explored in this book. The book also presents the different normal forms in database normalization, including the first, second, third, fourth, fifth, elementary key, domain-key, and Boyce-Codd normal forms. It also offers practical hints for normalization and denormalization. The book discusses different data types, such as the numeric, temporal and character data types; the different predicates; and the simple and advanced SELECT statements. In addition, the book presents virtual tables, and it discusses data partitions in queries; grouping operations; simple aggregate functions; and descriptive statistics, matrices and graphs in SQL. The book concludes with a discussion about optimizing SQL. It will be of great value to SQL programmers. Expert advice from a noted SQL authority and award-winning columnist who has given ten years service to the ANSI SQL standards committee Teaches scores of advanced techniques that can be used with any product, in any SQL environment, whether it is an SQL 92 or SQL 2008 environment Offers tips for working around deficiencies and gives insight into real-world challenges

Advances in temporal databases make it increasingly easier to store time-dependent information, creating a need for facilities that will help end-users access this information. In the context of natural language interaction, significant effort has been devoted to interfaces that allow database queries to be formulated in natural language. Most of the existing interfaces, however, do not support adequately the notion of time. Drawing upon tense and aspect theories, temporal logics, and temporal databases, this cross-discipline book examines relevant issues from the three areas, developing a unified theoretical framework that can be used to build natural language interfaces to temporal databases. The framework features an HPSG mapping from English to a formally defined meaning representation language, and a corresponding mapping to a temporal extension of the SQL database language. The book is accompanied by a freely available prototype interface, built according to the framework, and implemented using Prolog and ALE. This is the first in-depth exploration of the notion of time in natural language database interfaces. It will be particularly interesting to researchers working on natural language interaction, tense and aspect, HPSG, temporal logics, and temporal databases, especially those who wish to learn about time-related issues in other disciplines.

"I come from a T-SQL background, so when I first laid my eyes on SQL Server 2005, I was shocked--and then, I was scared! I didn't have a CLR or XML background and suddenly had an urgent need to learn it. SQL Server 2005 is too big of a release to learn from the books online. Fortunately, now there is a book for developers who need to go from SQL Server 2000 to SQL Server 2005 and to do it as painlessly as possible. Basically, it's one-stop shopping for serious developers who have to get up to speed quickly. I'll keep this one on my desk--not on my bookshelf. Well done, Bob and Dan!" --Dr. Tom Moreau SQL Server MVP and Monthly Columnist SQL Server Professional, Brockman Moreau Consulting Inc. "A SQL book truly for developers, from two authorities on the subject. I'll be turning to this book first when I need to understand a component of SQL Server 2005." --Matt Milner Instructor Pluralsight "An excellent book for those of us who need to get up to speed on what's new in SQL Server 2005. The authors made sure this book includes the final information for the release version of the product. Most other books out now are based on beta versions. It covers key areas from XML and SQLCLR to Notification Services. Although the wide variety of information is great, my favorite part was the advice given on when to use what, and how performance is affected." --Laura Blood Senior Software Developer Blue Note Computing, Inc. "SQL Server 2005 is a massive release with a large number of new features. Many of these features were designed to make SQL Server a great application development platform. This book provides comprehensive information about the SQL Server features of most interest to application developers. The lucid text and wealth of examples will give a developer a clear understanding of how to use SQL Server 2005 to

a whole new class of database applications. It should be on every SQL Server developer's bookshelf." --Roger Wolter Solutions Architect Microsoft Corporation "While there will be a lot of good books on SQL Server 2005 development, when people refer to the 'bible,' they'll be talking about this book." --Dr. Greg Low Senior Consultant Readify Pty Ltd "SQL Server 2005 is loaded with new features and getting a good overview is essential to understand how you can benefit from SQL Server 2005's features as a developer. Bob and Dan's book goes beyond enumerating the new SQL Server 2005 features, and will provide you with lots of good examples. They did a good job striking a balance between overview and substance." --Michiel Worries Senior Program Manager, SQL Server Microsoft Corporation Few technologies have been as eagerly anticipated as Microsoft SQL Server 2005. Now, two SQL Server insiders deliver the definitive hands-on guide--accurate, comprehensive, and packed with examples. "A Developer's Guide to SQL Server 2005" starts where Microsoft's documentation, white papers, and Web articles leave off, showing developers how to take full advantage of SQL Server 2005's key innovations. It draws on exceptional cooperation from Microsoft's SQL Server developers and the authors' extensive access to SQL Server 2005 since its earliest alpha releases. You'll find practical explanations of the new SQL Server 2005 data model, built-in .NET hosting, improved programmability, SQL:1999 compliance, and much more. Virtually every key concept is illuminated via sample code that has been fully updated for and tested with the shipping version of the product. Key coverage includes Using SQL Server 2005 as a .NET runtime host: extending the server while enhancing security, reliability, and performance Writing procedures, functions, triggers, and types in .NET languages Exploiting enhancements to T-SQL for robust error-handling, efficient queries, and improved syntax Effectively using the XML data type and XML queries Implementing native SQL Server 2005 Web Services Writing efficient, robust clients for SQL Server 2005 using ADO.NET, classic ADO, and other APIs Taking full advantage of user-defined types (UDTs), query notifications, promotable transactions, and multiple active result sets (MARS) Using SQL Management Objects (SMO), SQL Service Broker, and SQL Server Notification Services to build integrated applications

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

"This book provides a wide compendium of references to topics in the field of the databases systems and applications"--Provided by publisher.

Mining the Web: Discovering Knowledge from Hypertext Data is the first book devoted entirely to techniques for producing knowledge from the vast body of unstructured Web data. Building on an initial survey of infrastructural issues—including Web crawling and indexing—Chakrabarti examines low-level machine learning techniques as they relate specifically to the challenges of Web mining. He then devotes the final part of the book to applications that unite infrastructure and analysis to bring machine learning to bear on systematically acquired and stored data. Here the focus is on results: the strengths and weaknesses of these applications, along with their potential as foundations for further progress. From Chakrabarti's work—painstaking, critical, and forward-looking—readers will gain the theoretical and practical understanding they need to contribute to the Web mining effort. * A comprehensive, critical exploration of statistics-based attempts to make sense of Web Mining. * Details the special challenges associated with analyzing unstructured and semi-structured data. * Looks at how classical Information Retrieval techniques have been modified for use with Web data. * Focuses on today's dominant learning methods: clustering and classification, hyperlink analysis, and supervised and semi-supervised learning. * Analyzes current applications for resource discovery and social network analysis. * An excellent way to introduce students to especially vital applications of data mining and machine learning technology.

"This book offers research articles focused on key issues concerning the development, design, and analysis of databases"--Provided by publisher.

Moving Objects Databases is the first uniform treatment of moving objects databases, the technology that supports GPS and RFID. It focuses on the modeling and design of data from moving objects — such as people, animals, vehicles, hurricanes, forest fires, oil spills, armies, or other objects — as well as the storage, retrieval, and querying of that very voluminous data. It includes homework assignments at the end of each chapter, exercises throughout the text that students can complete as they read, and a solutions manual in the back of the book. This book is intended for graduate or advanced undergraduate students. It is also recommended for computer scientists and database systems engineers and programmers in government, industry and academia; professionals from other disciplines, e.g., geography, geology, soil science, hydrology, urban and regional planning, mobile computing, bioterrorism and homeland security, etc. Focuses on the modeling and design of data from moving objects--such as people, animals, vehicles, hurricanes, forest fires, oil spills, armies, or other objects--as well as the storage, retrieval, and querying of that very voluminous data. Demonstrates through many practical examples and illustrations how new concepts and techniques are used to integrate time and space in database applications. Provides exercises and solutions in each chapter to enable the reader to explore recent research results in practice.

Information Systems Development (ISD) progresses rapidly, continually creating new challenges for the professionals involved. New concepts, approaches and techniques of systems development emerge constantly in this field. Progress in ISD comes from research as well as from practice. This conference will discuss issues pertaining to information systems development (ISD) in the inter-networked digital economy. Participants will include researchers, both experienced and novice, from industry and academia, as well as students and practitioners. Themes will include methods and approaches for ISD; ISD

education; philosophical, ethical, and sociological aspects of ISD; as well as specialized tracks such as: distributed software development, ISD and knowledge management, ISD and electronic business / electronic government, ISD in public sector organizations, IOS.

Joe Celko's *Analytics and OLAP in SQL* is the first book that teaches what SQL programmers need in order to successfully make the transition from On-Line Transaction Processing (OLTP) systems into the world of On-Line Analytical Processing (OLAP). This book is not an in-depth look at particular subjects, but an overview of many subjects that will give the working RDBMS programmers a map of the terra incognita they will face — if they want to grow. It contains expert advice from a noted SQL authority and award-winning columnist, who has given ten years of service to the ANSI SQL standards committee and many more years of dependable help to readers of online forums. It offers real-world insights and lots of practical examples. It covers the OLAP extensions in SQL-99; ETL tools, OLAP features supported in DBMSs, other query tools, simple reports, and statistical software. This book is ideal for experienced SQL programmers who have worked with OLTP systems who need to learn techniques—and even some tricks—that they can use in an OLAP situation. Expert advice from a noted SQL authority and award-winning columnist, who has given ten years of service to the ANSI SQL standards committee and many more years of dependable help to readers of online forums

First book that teaches what SQL programmers need in order to successfully make the transition from transactional systems (OLTP) into the world of data warehouse data and OLAP Offers real-world insights and lots of practical examples Covers the OLAP extensions in SQL-99; ETL tools, OLAP features supported in DBMSs, other query tools, simple reports, and statistical software

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.

"Addresses the evolution of database management, technologies and applications along with the progress and endeavors of new research areas."--P. xiii.

Joe Celko's *SQL Puzzles and Answers, Second Edition*, challenges you with his trickiest puzzles and then helps solve them with a variety of solutions and explanations. Author Joe Celko demonstrates the thought processes that are involved in attacking a problem from an SQL perspective to help advanced database programmers solve the puzzles you frequently face. These techniques not only help with the puzzle at hand, but also help develop the mindset needed to solve the many difficult SQL puzzles you face every day. This updated edition features many new puzzles; dozens of new solutions to puzzles; and new chapters on temporal query puzzles and common misconceptions about SQL and RDBMS that leads to problems. This book is recommended for database programmers with a good knowledge of SQL. A great collection of tricky SQL puzzles with a variety of solutions and explanations Uses the proven format of puzzles and solutions to provide a user-friendly, practical look into SQL programming problems - many of which will help users solve their own problems New edition features: Many new puzzles added!, Dozens of new solutions to puzzles, and using features in SQL-99, Code is edited to conform to SQL STYLE rules, New chapter on temporal query puzzles, New chapter on common misconceptions about SQL and RDBMS that leads to problems

DW 2.0: The Architecture for the Next Generation of Data Warehousing is the first book on the new generation of data warehouse architecture, DW 2.0, by the father of the data warehouse. The book describes the future of data warehousing that is technologically possible today, at both an architectural level and technology level. The perspective of the book is from the top down: looking at the overall architecture and then delving into the issues underlying the components. This allows people who are building or using a data warehouse to see what lies ahead and determine what new technology to buy, how to plan extensions to the data warehouse, what can be salvaged from the current system, and how to justify the expense at the most practical level. This book gives experienced data warehouse professionals everything they need in order to implement the new generation DW 2.0. It is designed for professionals in the IT organization, including data architects, DBAs, systems design and development professionals, as well as data warehouse and knowledge management professionals. * First book on the new generation of data warehouse architecture, DW 2.0. * Written by the "father of the data warehouse", Bill Inmon, a columnist and newsletter editor of The Bill Inmon Channel on the Business Intelligence Network. * Long overdue comprehensive coverage of the implementation of technology and tools that enable the new generation of the DW: metadata, temporal data, ETL, unstructured data, and data quality control.

This book is a revised, upgraded, and hugely improved version of an earlier one called *Logic and Databases*. Although it's effectively a brand new book, therefore, the following remarks from that earlier book are still relevant here. First, logic and databases are inextricably intertwined. The relational model itself is essentially just elementary logic, tailored to database needs. Now, if you're a database professional, this won't be news to you—but you still might not realize just how much everything we do in the database world is (or should be!) affected by logic. Logic is fundamental, and everywhere. As a database professional, therefore, you owe it to yourself to understand the basics of formal logic, and you ought to be able to explain (and perhaps defend) the connections between formal logic and database technology. And that's what this book is about. What it does is show, through a series of partly independent, partly interrelated essays, just how various crucial aspects of database technology—some of them very familiar, others maybe less so—are solidly grounded in formal logic. Overall, the goal is to help you realize the importance of logic in everything you do, and also, I hope, to help you see that logic can be fun.

Comprehensive coverage of critical issues related to information science and technology.

Proceedings of the 29th Annual International Conference on Very Large Data Bases held in Berlin, Germany on September 9-12, 2003. Organized by the VLDB Endowment, VLDB is the premier international conference on database technology.

The Handbook provides practitioners, scientists and graduate students with a good overview of basic notions, methods and techniques, as well as important issues and trends across the broad spectrum of data management. In particular, the book covers fundamental topics in the field such as distributed databases, parallel databases, advanced databases, object-oriented databases, advanced transaction management, workflow management, data warehousing, data mining, mobile computing, data integration and the Web. Summing up, the Handbook is a valuable source of information for academics and practitioners who are interested in learning the key ideas in the considered area.

Information Modeling and Relational Databases, Second Edition, provides an introduction to ORM (Object-Role Modeling) and much more. In fact, it is 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. This book is intended for anyone with a stake in the accuracy and efficacy of databases: systems analysts, information modelers, database designers and administrators, and programmers. Terry Halpin, a pioneer in the development of ORM, 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. Presents the most indepth coverage of Object-Role Modeling available anywhere, including a thorough update of the book for ORM2, as well as UML2 and E-R (Entity-Relationship) modeling. Includes clear coverage of relational database concepts, and the latest developments in SQL and XML, including a new chapter on the impact of XML on information modeling, exchange and transformation. New and improved case studies and exercises are provided for many topics.

These proceedings contain 25 contributed papers presented at the 13th East-EuropeanConferenceAdvances on Databases and InformationSystems (ADBIS 2009) held September 7-10, 2009, in Riga, Latvia. The Call for Papers attracted 93 submissions from 28 countries. In a rigorous reviewing process the international Program Committee of 64 members from 29 countries selected these 25 contributions for publication in this volume; in addition, there is the abstract of an invited talk by Matthias Brantner. Furthermore, 18 additional contributions were selected for short presentations and have been published in a separate volume of local proceedings by the organizing institution. Typically, the accepted paperscoverawidespectrumofdatabaseandinformationsystemtopicsranging from query processing and optimization via query languages, design methods, data integration, indexing and caching to business processes, data mining, and application oriented topics like XML and data on the Web. The ADBIS 2009conference continued the series of ADBIS conferencesorganized every year in different countries of Easternand Central Europe, beginning in St. Petersburg (Russia, 1997), Poznan (Poland, 1998), Maribor (Slovenia, 1999), Prague (Czech Republic, as a joint ADBIS-DASFAA conference, 2000), Vilnius(Lithuania,2001), Bratislava(Slovakia,2002), Dresden(Germany,2003), Budapest(Hungary,2004), Tallinn(Estonia,2005), Thessaloniki(Greece,2006), Varna (Bulgaria, 2007), and Pori (Finland, 2008). The conferences are initiated and supervised by an international Steering Committee, which consists of representatives from Armenia, Austria, Bulgaria, Czech Republic, Greece, Estonia, Germany, Hungary, Israel, Italy, Latvia, Lithuania, Poland, Russia, Serbia, Slovakia, Slovenia, and Ukraine, and is chaired by Professor Leonid Kalinichenko.

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