

Modern Database Management 4th Edition Hoffer

This book arms developers and system managers with battle-tested strategies and techniques for ensuring that distributed data is available to all clients in a distributed client/server environment.

Get up to speed with core PostgreSQL tasks such as database administration, application development, database performance monitoring, and database testing **Key Features: Build real-world enterprise database management systems using Postgres 12 features Explore the development, administrative and security aspects of PostgreSQL 12 Implement best practices from industry experts to build powerful database applications** **Book Description: PostgreSQL is an open-source object-relational database management system (DBMS) that provides enterprise-level services, including high performance and scalability. This book is a collection of unique projects providing you with a wealth of information relating to administering, monitoring, and testing PostgreSQL. The focus of each project is on both the development and the administrative aspects of PostgreSQL. Starting by exploring development aspects such as database design and its implementation, you'll then cover PostgreSQL administration by understanding PostgreSQL architecture, PostgreSQL performance, and high-availability clusters. Various PostgreSQL projects are explained through current technologies such as DevOps and cloud platforms using programming languages like Python and Node.js. Later, you'll get to grips with the well-known database API tool, PostgREST, before learning how to use popular PostgreSQL database testing frameworks. The book is also packed with essential tips and tricks and common patterns for working seamlessly in a production environment. All the chapters will be explained with the help of a real-world case study on a small banking application for managing ATM locations in a city. By the end of this DBMS book, you'll be proficient in building reliable database solutions as per your organization's needs. What You Will Learn: Set up high availability PostgreSQL database clusters in the same containment, a cross-containment, and on the cloud Monitor the performance of a PostgreSQL database Create automated unit tests and implement test-driven development for a PostgreSQL database Develop PostgreSQL apps on cloud platforms using DevOps with Python and Node.js Write robust APIs for PostgreSQL databases using Python programming, Node.js, and PostgREST Create a geospatial database using PostGIS and PostgreSQL Implement automatic configuration by Ansible and Terraform for Postgres Who this book is for: This PostgreSQL book is for database developers, database administrators, data architects, or anyone who wants to build end-to-end database projects using Postgres. This book will also appeal to software engineers, IT technicians, computer science researchers, and university students who are interested in database development and administration. Some familiarity with PostgreSQL and Linux is required to grasp the concepts covered in the book effectively.**

The present book's subject is multidimensional data models and data modeling concepts as they are applied in real data warehouses. The book aims to present the most important concepts within this subject in a precise and understandable manner. The book's coverage of fundamental concepts includes data cubes and their elements, such as dimensions, facts, and measures and their representation in a relational setting; it includes architecture-related concepts; and it includes the querying of multidimensional databases. The book also covers advanced multidimensional concepts that are considered to be particularly important. This coverage includes advanced dimension-related concepts such as slowly changing dimensions, degenerate and junk dimensions, outriggers, parent-child hierarchies, and unbalanced, non-covering, and non-strict hierarchies. The book offers a principled overview of key implementation techniques that are particularly important to multidimensional databases, including materialized views, bitmap indices, join indices, and star join processing. The book ends with a chapter that presents the literature on which the book is based and offers further readings for those readers who wish to engage in more in-depth study of specific aspects of the book's subject. Table of Contents: Introduction / Fundamental Concepts / Advanced Concepts / Implementation Issues / Further Readings

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

Advances in Business, Management and Entrepreneurship

Expertmedia--expert Systems and Hypermedia

Fundamentals of Database Systems

Encyclopedia of Database Technologies and Applications

7th International Workshop on Accelerating Data Analysis and Data Management Systems Using Modern Processor and Storage Architectures, ADMS 2016 and 4th International Workshop on In-Memory Data Management and Analytics, IMDM 2016, New Delhi, India, September 1, 2016, Revised Selected Papers

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.

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.

The fifth edition of Modern Database Management has been updated to reflect the most current database content available. It provides sound, clear, and current coverage of the concepts, skills, and issues needed to cope with an expanding organisational resource. While sufficient technical detail is provided, the emphasis remains on management and implementation issues pertinent in a business information systems curriculum.

The 4th edition of this book has been updated to meet the new requirements of the students, professors, and practitioners. This is an enhanced version of the earlier editions. To update and enhance the coverage of the book, many chapters have been restructured, and some new content/chapters have also been added. In addition, to have better engagement and learning outcomes for the reader, certain new pedagogical features have also been added. NEW IN THIS EDITION • A new chapter on 'Ethical and Social Issues' • Applications using MS-Access in the upgraded Chapter 5 – Data Resource Management • Concepts on organisations in Chapter 2 - Information, Systems and Organisation Concepts • Concepts of e-Governance in chapter 7 – e-Commerce, e-Business and e-Governance • Some latest trends and concepts in Chapter 4 – IT Infrastructure • Concepts on Project Management in chapter 12 – IS development and Project Management KEY FEATURES • Some new cases have been added, and various case studies from the earlier edition have been updated • New pedagogical elements, such as Objective-type Questions, True/False Questions, Review Questions and Assignments have been added in chapters • Glossary has also been incorporated to get a quick understanding of the terms used in the book • Instructor support has been added on the web through Online Resources

Theory and Practice

Managing Distributed Databases

Modern Data Science with R

Database Management Systems

New Technical Books

Oceans '95

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 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.

This book is a comprehensive, practical, and student-friendly textbook addressing fundamental concepts in database design and applications.

Modern Data Science with R is a comprehensive data science textbook for undergraduates that incorporates statistical and computational thinking to solve real-world problems with data. Rather than focus exclusively on case studies or programming syntax, this book illustrates how statistical programming in the state-of-the-art R/RStudio computing environment can be leveraged to extract compelling statistical questions. Contemporary data science requires a tight integration of knowledge from statistics, computer science, mathematics, and a domain of application. This book will help readers with some background in statistics and modest prior experience with coding develop and practice the appropriate skills to tackle complex data science projects. The book features a number of semester courses.

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you manage them? author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer understand them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

Data Management on New Hardware

Building Bridges Between Database Islands

Readings in Database Systems

Journal of Database Management

Proceedings : January 26-29, 1998, Dunedin, New Zealand

Database Internals

This edition combines clear explanations of database theory and design with up-to-date coverage of models and real systems. It features excellent examples and access to Addison Wesley's database Web site that includes further teaching, tutorials and many useful student resources.

The GCBME Book Series aims to promote the quality and methodical reach of the Global Conference on Business Management & Entrepreneurship, which is intended as a high-quality scientific contribution to the science of business management and entrepreneurship. The Contributions are expected to be the main reference articles on the topic of each book and have been subject to a strict peer review process conducted by experts in the fields. The conference provided opportunities for the delegates to exchange new ideas and implementation of experiences, to establish business or research connections and to find Global Partners for future collaboration. The conference and resulting volume in the book series is expected to be held and appear annually. The year 2019 theme of book and conference is "Transforming Sustainable Business In The Era Of Society 5.0". The ultimate goal of GCBME is to provide a medium forum for educators, researchers, scholars, managers, graduate students and professional business persons from the diverse cultural backgrounds, to present and discuss their research, knowledge and innovation within the fields of business, management and entrepreneurship. The GCBME conferences cover major thematic groups, yet opens to other relevant topics: Organizational Behavior, Innovation, Marketing Management, Financial Management and Accounting, Strategic Management, Entrepreneurship and Green Business.

ExpertMedia is growing in popularity and brings together the well-established disciplines of Human-Computer Interaction and Artificial Intelligence.?ExpertMedia? is a neologism from expert systems and hypermedia systems and is intended to synergistically combine the advantages of each of these components: Expert System + HyperMedia System = ExpertMediaKey practitioners in the field have been meeting at the past two World Congresses on Expert Systems (1991 in Orlando and 1994 in Lisbon). Their experience in the field is brought together in this book which disseminates information about this innovative area to a large audience. The book consists of three different parts: The first part introduces ExpertMedia in general, the second part focuses on case studies of ExpertMedia and Medical Applications, and the last part deals with ExpertMedia and Knowledge-based Systems

This handbook is an endeavour to cover many current, relevant, and essential topics related to decision sciences in a scientific manner. Using this handbook, graduate students, researchers, as well as practitioners from engineering, statistics, sociology, economics, etc. will find a new and refreshing paradigm shift as to how these topics can be put to use beneficially.

Starting from the basics to advanced concepts, authors hope to make the readers well aware of the different theoretical and practical ideas, which are the focus of study in decision sciences nowadays. It includes an excellent bibliography/reference/journal list, information about a variety of datasets, illustrated pseudo-codes, and discussion of future trends in research.

Covering topics ranging from optimization, networks and games, multi-objective optimization, inventory theory, statistical methods, artificial neural networks, times series analysis, simulation modeling, decision support system, data envelopment analysis, queueing theory, etc., this reference book is an attempt to make this area more meaningful for varied readers.

Noteworthy features of this handbook are in-depth coverage of different topics, solved practical examples, unique datasets for a variety of examples in the areas of decision sciences, in-depth analysis of problems through colored charts, 3D diagrams, and discussions about software.

Concepts, Design and Applications

The Complete Book

Multidimensional Databases and Data Warehousing

Challenges of Information Technology Management in the 21st Century

Designing Data-Intensive Applications

1998 International Conference Software Engineering: Education & Practice

Engineers from around the world recount in this volume their successes and failures in attempting to deal with unique and quixotic landscapes.

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.

The Internet has enabled the convergence of all things information-related. This book provides essential, foundational knowledge of the application of Internet and web technologies in the information and library professions. • Covers a broad spectrum of Internet technologies within the context of knowledge and skills needed by LIS students and professionals in related fields • Identifies key issues related to the use of Internet technologies in libraries and other information organizations • Helps students understand and apply the basic vocabulary and principles of computer software, hardware, and networks • Identifies the various roles that the web, social media, and mobile 2.0 play in the context of libraries and the LIS profession

This book provides comprehensive coverage of fundamentals of database management system. It contains a detailed description on Relational Database Management System Concepts. There are a variety of solved examples and review questions with solutions. This book is for those who require a better understanding of relational data modeling, its purpose, its nature, and the standards used in creating relational data model.

A Cognitive Perspective on Search Engine Technology and the WWW

Encyclopedia of Information Science and Technology, Fourth Edition

View-based Solutions for Schema Evolution Problems

Database Systems

Use the Highly Available and Object-relational PostgreSQL to Build Scalable and Reliable Apps

Application Interoperability and View Synchronization

Entity-relationship (E-R) diagrams are time-tested models for database development well-known for their usefulness in mapping out clear database designs. Also commonly known is how difficult it is to master them. With this comprehensive guide, database designers and developers can quickly learn all the ins and outs of E-R diagramming to become expe

The Handbook of Data Structures and Applications was first published over a decade ago. This second edition aims to update the first by focusing on areas of research in data structures that have seen significant progress. While the discipline of data structures has not matured as rapidly as other areas of computer

science, the book aims to update those areas that have seen advances. Retaining the seven-part structure of the first edition, the handbook begins with a review of introductory material, followed by a discussion of well-known classes of data structures, Priority Queues, Dictionary Structures, and Multidimensional structures. The editors next analyze miscellaneous data structures, which are well-known structures that elude easy classification. The book then addresses mechanisms and tools that were developed to facilitate the use of data structures in real programs. It concludes with an examination of the applications of data structures. Four new chapters have been added on Bloom Filters, Binary Decision Diagrams, Data Structures for Cheminformatics, and Data Structures for Big Data Stores, and updates have been made to other chapters that appeared in the first edition. The Handbook is invaluable for suggesting new ideas for research in data structures, and for revealing application contexts in which they can be deployed. Practitioners devising algorithms will gain insight into organizing data, allowing them to solve algorithmic problems more efficiently.

As the 21st century begins, we are faced with opportunities and challenges of available technology as well as pressured to create strategic and tactical plans for future technology. Worldwide, IT professionals are sharing and trading concepts and ideas for effective IT management, and this co-operation is what leads to solid IT management practices. This volume is a collection of papers that present IT management perspectives from professionals around the world. The papers seek to offer new ideas, refine old ones, and pose interesting scenarios to help the reader develop company-sensitive management strategies.

Zygiaris provides an accessible walkthrough of all technological advances of databases in the business environment. Readers learn how to design, develop, and use databases to provide business analytical reports with the three major database management systems: Microsoft Access, Oracle Express and MariaDB (formerly MySQL).

Data Mining: Concepts and Techniques

Internet Technologies and Information Services, 2nd Edition

Proceedings of the 4th Global Conference on Business Management & Entrepreneurship (GC-BME 4), 8 August 2019, Bandung, Indonesia

Fundamentals of Relational Database Management Systems

The Big Ideas Behind Reliable, Scalable, and Maintainable Systems

Decision Sciences

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

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Database Systems: The Complete Book is ideal for Database Systems and Database Design and Application courses offered at the junior, senior and graduate levels in Computer Science departments. A basic understanding of algebraic expressions and laws, logic, basic data structure, OOP concepts, and programming environments is implied. Written by well-known computer scientists, this introduction to database systems offers a comprehensive approach, focusing on database design, database use, and implementation of database applications and database management systems. The first half of the book provides in-depth coverage of databases from the point of view of the database designer, user, and application programmer. It covers the latest database standards SQL:1999, SQL/PSM, SQL/CLI, JDBC, ODL, and XML, with broader coverage of SQL than most other texts. The second half of the book provides in-depth coverage of databases from the point of view of the DBMS implementor. It focuses on storage structures, query processing, and transaction management. The book covers the main techniques in these areas with broader coverage of query optimization than most other texts, along with advanced topics including multidimensional and bitmap indexes, distributed transactions, and information integration techniques.

Managing Information Technology Resources in Organizations in the Next Millennium contains more than 200 unique perspectives on numerous timely issues of managing information technology in organizations around the world. This book, featuring the latest research and applied IT practices, is a valuable source in support of teaching and research agendas.

Modern Database Management

1999 Information Resources Management Association International Conference, Hershey, PA, USA, May 16-19, 1999

Modern Database Management

The Cumulative Book Index

Management Information Systems: Managerial Perspectives, 4th Edition

"Challenges of Our Changing Global Environment": Conference Proceedings, October 9-12, 1995, San Diego, California

Database Design Using Entity-Relationship Diagrams

SQL (Structured Query Language) is THE standard language used world-wide for database communication on all popular database software. It allows the storage and manipulation of data both on Windows platforms and on Unix-based platforms, such as Linux. SQL in easy steps, 4th edition begins by explaining how to download and install the free MySQL database server on both Windows and Linux platforms. This allows you to establish an environment in which to develop and administer your own databases. This book makes no assumption that you will have previous knowledge of any programming or scripting language so it's ideal for the newcomer to SQL. Each chapter builds your knowledge of executing database queries. The book contains exciting chapters on how to selectively extract data from within one, or more, databases and there are complete examples that illustrate each aspect of SQL. By the end of this book you will have gained a sound understanding of the Structured Query Language and be able to write your own SQL scripts to insert, extract, and manipulate data. SQL in easy steps, 4th edition has an easy-to-follow style that will appeal to anyone who wants to begin using databases. It is suitable for those with little or no experience of SQL. This book will appeal to all who need a fundamental understanding of database administration with SQL: · Web developers wanting to add database interaction to their web sites · Programmers wanting to add SQL to their skills set · Hobbyists who want to begin creating SQL scripts for upload to their own ISP · Students or those seeking a career in computing. *Free, downloadable source code is available from our website so you can check the code against your own work, and get started straight away!*

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

Explains how to build useful tools for searching collections of text and other media.

For courses in database management. A comprehensive text on the latest in database development Focusing on what leading database practitioners say are the most important aspects to database development, Modern Database Management presents sound pedagogy and topics that are critical for the practical success of database professionals. The 13th Edition updates and expands materials in areas undergoing rapid change as a result of improved managerial practices, database design tools and methodologies, and database technology - such as application security, multi-user solutions, and more - to reflect major trends in the field and the skills required of modern information systems graduates. 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 will receive via email the code and instructions on how to access this product. 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 Distributed Database Systems

Modern Database Management, Global Edition

Handbook on Data Management in Information Systems

SQL in easy steps, 4th edition

The Engineering Geology and Hydrology of Karst Terrains

Managing Information Technology Resources in the Next Millennium

This book contains selected papers from the 7th International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures, ADMS 2016, and the 4th International Workshop on In-Memory Data Management and Analytics, IMDM 2016, held in New Dehli, India, in September 2016. The joint Workshops were located with VLDB 2016. The 9 papers presented were carefully reviewed and selected from 18 submissions. They investigate opportunities in accelerating analytics/data management systems and workloads (including traditional OLTP, data warehousing/OLAP, ETL streaming/real-time, business analytics, and XML/RDF processing) running memory-only environments using processors (e.g. commodity and specialized multi-core, GPUs and FPGAs, storage systems (e.g. storage-class memories like SSDs and phase-change memory), and hybrid programming models like CUDA, OpenCL, and Open ACC. The papers also explore the interplay between overall system design, core algorithms, query optimization strategies, programming approaches, performance modeling and evaluation, from the perspective of data management applications.

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

In recent years, our world has experienced a profound shift and progression in available computing and knowledge sharing innovations. These emerging advancements have developed at a rapid pace, disseminating into and affecting numerous aspects of contemporary society. This has created a pivotal need for an innovative compendium encompassing the latest trends, concepts, and issues surrounding this relevant discipline area. During the past 15 years, the Encyclopedia of Information Science and Technology has become recognized as one of the landmark sources of the latest knowledge and discoveries in this discipline. The Encyclopedia of Information Science and Technology, Fourth Edition is a 10-volume set which includes 705 original and previously unpublished research articles covering a full range of perspectives, applications, and techniques contributed by thousands of experts and researchers from around the globe. This authoritative encyclopedia is an all-encompassing, well-established reference source that is ideally designed to disseminate the most forward-thinking and diverse research findings. With critical perspectives on the impact of information science management and new technologies in modern settings, including but not limited to computer science, education, healthcare, government, engineering, business, and natural and physical sciences, it is a pivotal and relevant source of knowledge that will benefit every professional within the field of information science and technology and is an invaluable addition to every academic and corporate library.

Web Database Applications with PHP and MySQL

2000 Information Resources Management Association International Conference, Anchorage, Alaska, USA, May 21-24, 2000

A Deep Dive into How Distributed Data Systems Work

Finding Out About

Handbook of Data Structures and Applications

A Business-Oriented Approach Using ORACLE, MySQL and MS Access