

mysql database administrator training

MySQL Database Administrator Training: A Pathway to Mastering Database Management

mysql database administrator training is an essential stepping stone for anyone looking to build a career in database management or enhance their technical skills in managing one of the most widely used open-source relational database systems. Whether you are a beginner eager to understand the basics or a seasoned IT professional aiming to sharpen your expertise, comprehensive training in MySQL administration can open up numerous opportunities in the data-driven world.

Understanding the role of a MySQL Database Administrator (DBA) is crucial before diving into the training process. A DBA ensures that databases run smoothly, securely, and efficiently. They handle tasks such as installation, configuration, backup, recovery, performance tuning, and security management. Given how integral databases are to businesses—from startups to multinational corporations—mastering MySQL administration can significantly boost your career prospects.

Why Choose MySQL Database Administrator Training?

MySQL stands out as a preferred database management system due to its reliability, scalability, and open-source nature. Training specifically tailored for MySQL DBAs equips you with practical skills and theoretical knowledge that are highly valued in industries like finance, healthcare, e-commerce, and tech.

The training is designed to cover a vast array of topics:

- Installation and configuration of MySQL servers
- Database design and normalization techniques
- User management and security protocols
- Backup strategies and disaster recovery planning
- Performance optimization and query tuning
- Replication and high availability setups

Beyond just learning commands and configurations, MySQL database administrator training teaches you to think critically about database architecture and maintenance, ensuring data integrity and availability.

Core Components of Effective MySQL Database Administrator Training

1. Hands-On Practical Experience

One of the most effective ways to learn MySQL database administration is through practical, real-world exercises. Training programs that incorporate lab sessions allow you to install MySQL servers,

create databases, execute SQL queries, and perform administrative tasks. This hands-on approach not only helps cement theoretical concepts but also builds confidence in managing live environments.

2. Understanding Database Security

Database security is a critical concern for DBAs. Training often includes modules on how to implement robust security measures such as user authentication, access controls, encryption, and auditing. Learning how to safeguard sensitive data from unauthorized access or breaches is vital in today's cybersecurity landscape.

3. Performance Tuning and Optimization

A key responsibility of a MySQL DBA is to ensure databases operate at peak performance. Training covers techniques to optimize queries, configure indexes, and monitor server metrics. You also learn how to identify bottlenecks and apply solutions that improve response times and throughput, making applications faster and more reliable.

4. Backup and Disaster Recovery Strategies

Data loss can have catastrophic consequences. Comprehensive training teaches you how to implement effective backup plans, schedule automated backups, and restore databases efficiently. Understanding different backup types—full, incremental, and binary logs—is crucial for minimizing downtime and data loss.

5. Replication and High Availability Solutions

Modern applications require databases that are always available. MySQL training covers replication setups that allow data to be copied across multiple servers for redundancy and load balancing. You'll explore master-slave and master-master replication models, enabling you to design fault-tolerant systems.

Choosing the Right MySQL Database Administrator Training Program

With numerous training options available—from online courses and bootcamps to instructor-led workshops—it's important to select a program that aligns with your career goals and learning style. Here are some tips to help you choose wisely:

- **Check Course Content:** Ensure the curriculum covers essential DBA topics and includes practical labs.

- **Certification Opportunities:** Look for courses that prepare you for recognized certifications like Oracle's MySQL Database Administrator Certification.
- **Instructor Expertise:** Learn from experienced professionals who can share industry insights and best practices.
- **Community and Support:** Access to forums, mentorship, or support services can enhance your learning experience.
- **Flexibility:** Consider your schedule and choose between self-paced or live sessions accordingly.

Enhancing Your Skills Beyond Training

MySQL database administrator training is just the beginning of your journey. To stay current and excel in your role, continuous learning is essential. Here are some ways to keep your skills sharp:

Engage with Online Communities

Platforms like Stack Overflow, Reddit's r/mysql, and official MySQL forums are treasure troves of knowledge. Participating in discussions, asking questions, and sharing your experiences helps deepen your understanding and resolve challenges quickly.

Experiment with Real Projects

Building your own database projects or contributing to open-source initiatives can provide invaluable hands-on experience. Try setting up replication, experimenting with performance tuning, or simulating disaster recovery scenarios.

Stay Updated with Latest Versions

MySQL regularly releases updates packed with new features and security enhancements. Keeping up with these changes ensures you can leverage the latest tools and maintain secure environments.

Learn Related Technologies

Expanding your expertise to include complementary technologies such as Linux server administration, scripting languages (like Python or Bash), and cloud platforms (AWS, Azure) makes you a more versatile and valuable DBA.

The Career Impact of MySQL Database Administrator Training

Completing a comprehensive MySQL database administrator training program can significantly enhance your employability and earning potential. DBAs are in demand globally, and proficiency in MySQL—a widely adopted database—puts you in a strong position.

Companies value DBAs who not only understand database internals but can also troubleshoot problems swiftly, optimize for performance, and secure critical data assets. Your training equips you with these competencies, making you a key player in any IT team.

Moreover, certified MySQL DBAs often gain access to exclusive job opportunities, higher salary brackets, and career advancement paths such as Database Architect, Data Engineer, or Systems Administrator roles.

The journey through mysql database administrator training is as much about gaining technical skills as it is about developing a mindset geared towards meticulous data management and problem-solving. Whether you are embarking on this path to start a new career or to enhance your current role, investing time and effort into quality training will pay dividends in the evolving world of data technology.

Frequently Asked Questions

What are the key skills covered in MySQL Database Administrator training?

MySQL Database Administrator training typically covers database installation, configuration, security, backup and recovery, performance tuning, replication, and troubleshooting.

Is prior experience with SQL required before taking MySQL DBA training?

While prior SQL knowledge is beneficial, many MySQL DBA training programs start with foundational concepts, making them suitable for beginners with basic database understanding.

How long does it usually take to complete MySQL DBA training?

The duration varies by program but generally ranges from 4 to 12 weeks, depending on the depth of the course and whether it's part-time or full-time.

Are there certifications available after completing MySQL

Database Administrator training?

Yes, after training, you can pursue certifications such as Oracle's MySQL Database Administrator Certified Professional to validate your skills.

What career opportunities can I expect after completing MySQL DBA training?

Completing MySQL DBA training can lead to roles like MySQL Database Administrator, Database Engineer, Data Analyst, and positions in database management and support.

Can MySQL Database Administrator training help with database performance optimization?

Absolutely, performance tuning is a core component of MySQL DBA training, teaching techniques to optimize queries, indexing, and server configurations.

Is MySQL DBA training suitable for managing large-scale databases?

Yes, training covers managing databases of various sizes, including strategies for scalability, replication, clustering, and high availability for large-scale environments.

What tools and technologies are commonly taught in MySQL DBA training?

Training often includes tools such as MySQL Workbench, phpMyAdmin, Percona Toolkit, and monitoring tools like Nagios or Zabbix for effective database administration.

Are there online options available for MySQL Database Administrator training?

Yes, numerous online platforms offer MySQL DBA training courses, providing flexibility with video lectures, hands-on labs, and interactive assessments.

Additional Resources

MySQL Database Administrator Training: Navigating the Path to Expertise

mysql database administrator training has become an essential pursuit for IT professionals aiming to master one of the most widely used open-source database management systems globally. As organizations increasingly rely on data-driven decision-making, the demand for skilled MySQL DBAs (Database Administrators) continues to grow. This article delves into the intricacies of MySQL database administrator training, exploring its components, significance, and the evolving landscape that shapes the competencies required for effective database management.

Understanding MySQL Database Administrator Training

MySQL database administrator training is a specialized education program designed to equip learners with the technical knowledge and practical skills necessary to maintain, optimize, and secure MySQL databases. Unlike general database courses, MySQL DBA training focuses on the specific architecture, tools, and performance tuning techniques unique to MySQL. This makes the training highly relevant for professionals tasked with ensuring data integrity, availability, and efficiency within their organization's IT infrastructure.

From installation and configuration to backup strategies and troubleshooting, the curriculum typically covers a broad spectrum of topics vital for day-to-day operations. Additionally, modern MySQL DBA programs incorporate lessons on cloud database management, replication, and high availability—reflecting the increasing shift towards distributed and cloud-native environments.

Core Components of MySQL DBA Training

A comprehensive MySQL database administrator training program usually encompasses the following key areas:

- **Installation & Configuration:** Understanding the deployment of MySQL servers on various operating systems and optimizing configuration parameters for performance.
- **User & Access Management:** Implementing security best practices, managing user roles, and controlling database access.
- **Backup and Recovery:** Designing robust backup strategies and executing recovery procedures to prevent data loss.
- **Performance Tuning:** Utilizing indexing, query optimization, and server parameter adjustments to enhance database responsiveness.
- **Replication & High Availability:** Setting up master-slave replication, clustering, and failover mechanisms to ensure uptime.
- **Monitoring & Troubleshooting:** Employing monitoring tools and interpreting logs to proactively identify and resolve issues.

These components collectively form the foundation of a proficient MySQL DBA's skill set, enabling effective management of databases in diverse environments ranging from small businesses to large enterprises.

The Importance of Formal MySQL DBA Training in

Modern IT

While self-study and hands-on experience are invaluable, formal MySQL database administrator training offers structured learning and exposure to industry best practices. Given the complexity of database administration tasks, formal training helps reduce the trial-and-error phase, thereby minimizing costly errors that can impact business operations.

Moreover, with the rise of cloud services such as Amazon RDS, Google Cloud SQL, and Azure Database for MySQL, the role of a DBA is evolving. Training programs increasingly integrate cloud-specific modules, teaching how to manage MySQL instances in hybrid and multi-cloud environments. This ensures that DBAs remain relevant and can leverage cloud capabilities for scalability and disaster recovery.

Comparing Popular Training Formats

MySQL DBA training is available through various delivery modes, each with distinct advantages:

1. **Instructor-Led Classroom Training:** Offers real-time interaction with experts and peers, suitable for those who benefit from structured environments.
2. **Online Self-Paced Courses:** Provide flexibility, allowing learners to progress according to their schedules. Platforms like Udemy, Coursera, and Pluralsight offer extensive MySQL DBA content.
3. **Bootcamps and Workshops:** Intensive, hands-on sessions aimed at rapid skill acquisition, often culminating in project-based assessments.
4. **Vendor-Specific Certifications:** Oracle's MySQL certifications provide validated credentials that enhance career prospects.

Understanding these formats helps professionals choose the training path that best aligns with their learning preferences and career goals.

Essential Skills Developed Through MySQL DBA Training

Beyond technical proficiency, effective MySQL database administrator training cultivates a range of soft and analytical skills vital for database management roles:

- **Problem-Solving:** Diagnosing performance bottlenecks and resolving database errors efficiently.

- **Attention to Detail:** Ensuring accurate configuration and meticulous monitoring to prevent data corruption.
- **Communication:** Collaborating with developers, system administrators, and stakeholders to align database operations with business needs.
- **Adaptability:** Keeping pace with evolving database technologies, including new MySQL features and third-party tools.

These competencies enable DBAs not only to maintain databases but also to contribute strategically to IT infrastructure planning and data governance.

Industry Demand and Career Impact

The global database administrator job market reflects a steady demand for MySQL expertise. According to recent industry reports, MySQL remains one of the top database platforms used by enterprises of all sizes, largely due to its open-source nature and robust community support. Employers often seek certified MySQL DBAs who demonstrate both foundational knowledge and specialized skills such as replication setup or cloud integration.

Completing a recognized MySQL database administrator training program can significantly enhance a candidate's employability and salary potential. For instance, DBAs with certifications and hands-on experience report higher average salaries compared to their non-certified counterparts. Furthermore, ongoing training prepares professionals for advanced roles in database architecture, data security, and cloud database management.

Challenges and Considerations in MySQL DBA Training

While the benefits of MySQL database administrator training are clear, prospective learners should be aware of certain challenges:

- **Rapid Technology Updates:** MySQL continuously evolves, requiring training content to be frequently updated to stay relevant.
- **Complexity of Real-World Scenarios:** Simulated environments may not fully capture the intricacies of managing large-scale production databases.
- **Balancing Theoretical and Practical Learning:** Effective training must blend conceptual understanding with hands-on labs to solidify skills.
- **Cost and Time Investment:** High-quality training programs may represent a significant investment, requiring careful consideration of ROI.

Prospective trainees should evaluate programs based on curriculum depth, instructor expertise, available resources, and alignment with their career objectives.

Emerging Trends in MySQL DBA Education

The future of MySQL database administrator training is shaped by several key trends:

- **Integration of Automation Tools:** Training increasingly covers DevOps practices, including automation with Ansible, Puppet, and CI/CD pipelines.
- **Focus on Cloud-Native Skills:** Emphasis on managing MySQL within Kubernetes clusters and cloud-managed services.
- **Security-Centric Modules:** Growing importance of data encryption, compliance, and vulnerability assessment within the curriculum.
- **Interactive and Adaptive Learning:** Use of AI-powered platforms to personalize learning paths and provide real-time feedback.

These innovations aim to enhance the effectiveness of training programs and prepare DBAs for the evolving demands of the database landscape.

In summary, mysql database administrator training serves as a critical gateway for IT professionals seeking to excel in database management. By blending foundational knowledge with emerging technologies and practical skills, such training ensures that DBAs can confidently support the data infrastructure that underpins modern enterprises.

[Mysql Database Administrator Training](#)

mysql database administrator training: Becoming a Database Administrator Mary-Lane Kamberg, 2017-07-15 Since the development of the World Wide Web in the 1990s, humans have been living in the Information Age. That's why one important job in the growing field of information technology is that of database administrator (DBA). A DBA is responsible for storing, backing up, and making information easy to access, as well as ensuring its security. This title uses an easy-to-understand, straightforward approach to explore the tasks DBAs perform and the education, certification, and experience required for it. It also outlines steps high school students can take to prepare for fulfilling employment requirements and tips for finding job openings in the field.

mysql database administrator training: MySQL Administrator's Bible Sheeri K. Cabral, Keith Murphy, 2011-03-04 With special focus on the next major release of MySQL, this resource provides a solid framework for anyone new to MySQL or transitioning from another database platform, as well as experience MySQL administrators. The high-profile author duo provides essential coverage of the fundamentals of MySQL database management—including MySQL's unique approach to basic database features and functions—as well as coverage of SQL queries, data and index types, stores procedure and functions, triggers and views, and transactions. They also present comprehensive

coverage of such topics as MySQL server tuning, managing storage engines, caching, backup and recovery, managing users, index tuning, database and performance monitoring, security, and more.

mysql database administrator training: *MariaDB And PostgreSQL Crash Course* Vivian Siahaan, Rismon Hasiholan Sianipar, 2019-11-13 In this book, you will create two MariaDB and PostgreSQL driven projects using PyQt. The step-by-step guide in this book is expected to help the reader's confidence to become a programmer who can solve database programming problems. A progressive project is provided to demonstrate how to apply the concepts of MariaDB and PostgreSQL using Python. In second chapter, you will learn PyQt that consists of a number of Python bindings for cross-platform applications that combine all the strengths of Qt and Python. By using PyQt, you can include all Qt libraries in Python code, so you can write GUI applications in Python. In other words, you can use PyQt to access all the features provided by Qt through Python code. Because PyQt depends on the Qt libraries at run time, you need to install PyQt. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In this chapter, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter five, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter six, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter eight, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

mysql database administrator training: *Database Technologies: Concepts, Methodologies, Tools, and Applications* Erickson, John, 2009-02-28 This reference expands the field of database technologies through four-volumes of in-depth, advanced research articles from nearly 300 of the world's leading professionals--Provided by publisher.

mysql database administrator training: *Handbook of Research on Open Source Software: Technological, Economic, and Social Perspectives* St.Amant, Kirk, Still, Brian, 2007-04-30 This handbook of research is one of the few texts to combine Open Source Software (OSS) in public and private sector activities into a single reference source. It examines how the use of OSS affects practices in society, business, government, education, and law.

mysql database administrator training: *MySQL 5.0 Certification Study Guide* Paul DuBois, Stefan Hinz, Carsten Pedersen, 2005-08-24 This is the eBook version of the print title and does not include the CD or DVD accompanying the print version of the book. This is the official guide to passing the two MySQL certification tests for MySQL 5, the long-awaited major revision of MySQL. The number of MySQL certification exams taken has doubled in the last six months. Certcities.com lists the MySQL certification as one of the top 10 certifications to grow in 2005.

MySQL professionals need a way to distinguish themselves from the vast majority of database administrators and developers. With more than 4 million active installations, MySQL is the world's most popular open-source database. Known for its speed, reliability and ease of use, MySQL has become a low-cost alternative to expensive database systems such as Oracle, IBM and Microsoft. MySQL AB has aggressively improved the feature set of MySQL with MySQL 5, making it more suitable for enterprise-level applications and uses. The MySQL certification tests, available at over 3,000 PearsonVUE testing centers, is a key component of this enterprise growth strategy, establishing a base level of skills for database users, administrators and programmers. The MySQL Core Certification is aimed at the database user who wants proof of his or her abilities in such fundamental areas as SQL, data entry and maintenance, and data extraction. The MySQL Professional Certification test is designed for the advanced user who wants to prove his or her knowledge in such areas as database management, installation, security, disaster prevention and optimization. Both tests are thoroughly covered in the MySQL 5.0 Certification Study Guide . Written by Paul DuBois, the leading author of books on MySQL topics, and reviewed for technical accuracy by MySQL AB, this book is the fastest, most reliable way for MySQL users, developers, and administrators to prepare for either of the MySQL tests.

mysql database administrator training: MS Access And SQL Server Crash Course: A Step by Step, Project-Based Introduction to Java GUI Programming Vivian Siahaan, Rismon Hasiholan Sianipar, 2019-11-13 This is a Java GUI crash course. This book will help you quickly write efficient, high-quality access-database-driven code with Java. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. The lessons in this book are a highly organized and well-indexed set of tutorials meant for students and programmers. Netbeans, a specific IDE (Integrated Development Environment) is used to create GUI (Graphical User Interface applications). The finished product is the reward, but the readers are fully engaged and enriched by the process. This kind of learning is often the focus of training. In this book, you will learn how to build from scratch two access database management systems using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In chapter one, you will create School database and six tables. In chapter two, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter four, you will study how to query the six tables. In chapter five, you will create dan configure database. In chapter six, you will some image processing techniques using Java. In chapter seven, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter nine, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In the last chapter, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key),

suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

mysql database administrator training: DATA SCIENCE CRASH COURSE: Voice Based Gender Classification and Prediction Using Machine Learning and Deep Learning with Python GUI Vivian Siahaan, Rismon Hasiholan Sianipar, 2021-12-08 This dataset was created to identify a voice as male or female, based upon acoustic properties of the voice and speech. The dataset consists of 3,168 recorded voice samples, collected from male and female speakers. The voice samples are pre-processed by acoustic analysis in R using the seewave and tuneR packages, with an analyzed frequency range of 0hz-280hz (human vocal range). The following acoustic properties of each voice are measured and included within the CSV: meanfreq: mean frequency (in kHz); sd: standard deviation of frequency; median: median frequency (in kHz); Q25: first quantile (in kHz); Q75: third quantile (in kHz); IQR: interquantile range (in kHz); skew: skewness; kurt: kurtosis; sp.ent: spectral entropy; sfm: spectral flatness; mode: mode frequency; centroid: frequency centroid (see specprop); peakf: peak frequency (frequency with highest energy); meanfun: average of fundamental frequency measured across acoustic signal; minfun: minimum fundamental frequency measured across acoustic signal; maxfun: maximum fundamental frequency measured across acoustic signal; meandom: average of dominant frequency measured across acoustic signal; mindom: minimum of dominant frequency measured across acoustic signal; maxdom: maximum of dominant frequency measured across acoustic signal; dfrange: range of dominant frequency measured across acoustic signal; modindx: modulation index. Calculated as the accumulated absolute difference between adjacent measurements of fundamental frequencies divided by the frequency range; and label: male or female. The models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and CNN 1D. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, learning curve, performance of the model, scalability of the model, training loss, and training accuracy.

mysql database administrator training: MS Access And SQL Server Crash Course Vivian Siahaan, Rismon Hasiholan Sianipar, 2019-11-13 This book covers microsoft acces and SQL Server based GUI programming using pyqt. Intentionally designed for various levels of interest and ability of learners, this book is suitable for students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skill are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_status,

arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In the last chapter, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

mysql database administrator training: National Guide to Educational Credit for Training Programs 2004-2005 Jo Ann Robinson, Troy Polite, Nancy Musick, 2004 For more than 25 years, this guide has been the trusted source of information on thousands of educational courses offered by business, labor unions, schools, training suppliers, professional and voluntary associations, and government agencies. These courses provide academic credit to students for learning acquired at such organizations as AT&T, Citigroup, Delta Air Lines, General Motors University, NETg, and Walt Disney World Resort. Each entry in the comprehensive ^INational Guide^R provides: ^L ^L ^DBL Course title ^L ^DBL Location of all sites where the course is offered^L ^DBL Length in hours, days, or weeks ^L ^DBL Period during which the credit recommendation applies^L ^DBL Purpose for which the credit was designed ^L ^DBL Learning outcomes ^L ^DBL Teaching methods, materials, and major subject areas covered^L ^DBL College credit recommendations offered in four categories (by level of degrees) and expressed in semester hours and subject areas(s) in which credit is applicable. ^L ^L The introductory section includes ACE Transcript Service information. For more than 25 years, this guide has been the trusted source of information on thousands of educational courses offered by business, labor unions, schools, training suppliers, professional and voluntary associations, and government agencies. These courses provide academic credit to students for learning acquired at such organizations as AT&T, Citigroup, Delta Air Lines, General Motors University, NETg, and Walt Disney World Resort. Each entry in the comprehensive ^INational Guide^R provides: ^L ^L ^DBL Course title ^L ^DBL Location of all sites where the course is offered^L ^DBL Length in hours, days, or weeks ^L ^DBL Period during which the credit recommendation applies^L ^DBL Purpose for which the credit was designed ^L ^DBL Learning outcomes ^L ^DBL Teaching methods, materials, and major subject areas covered^L ^DBL College credit recommendations offered in four categories (by level of degrees) and expressed in semester hours and subject areas(s) in which credit is applicable. ^L ^L The introductory section includes ACE Transcript Service information.

mysql database administrator training: DATA SCIENCE CRASH COURSE: Thyroid Disease Classification and Prediction Using Machine Learning and Deep Learning with Python GUI Vivian Siahaan, Rismon Hasiholan Sianipar, 2023-07-17 Thyroid disease is a prevalent condition that affects the thyroid gland, leading to various health issues. In this session of the Data Science Crash Course, we will explore the classification and prediction of thyroid disease using machine learning and deep learning techniques, all implemented with the power of Python and a user-friendly GUI built with PyQt. We will start by conducting data exploration on a comprehensive dataset containing relevant features and thyroid disease labels. Through analysis and pattern recognition, we will gain insights into the underlying factors contributing to thyroid disease. Next, we will delve into the machine learning phase, where we will implement popular algorithms including Support Vector, Logistic Regression, K-Nearest Neighbors (KNN), Decision Tree, Random Forest, Gradient Boosting, Light Gradient Boosting, Naive Bayes, Adaboost, Extreme Gradient

Boosting, and Multi-Layer Perceptron. These models will be trained using different preprocessing techniques, including raw data, normalization, and standardization, to evaluate their performance and accuracy. We train each model on the training dataset and evaluate its performance using appropriate metrics such as accuracy, precision, recall, and F1-score. This helps us assess how well the models can predict stroke based on the given features. To optimize the models' performance, we perform hyperparameter tuning using techniques like grid search or randomized search. This involves systematically exploring different combinations of hyperparameters to find the best configuration for each model. After training and tuning the models, we save them to disk using joblib. This allows us to reuse the trained models for future predictions without having to train them again. Moving beyond traditional machine learning, we will build an artificial neural network (ANN) using TensorFlow. This ANN will capture complex relationships within the data and provide accurate predictions of thyroid disease. To ensure the effectiveness of our ANN, we will train it using a curated dataset split into training and testing sets. This will allow us to evaluate the model's performance and its ability to generalize predictions. To provide an interactive and user-friendly experience, we will develop a Graphical User Interface (GUI) using PyQt. The GUI will allow users to input data, select prediction methods (machine learning or deep learning), and visualize the results. Through the GUI, users can explore different prediction methods, compare performance, and gain insights into thyroid disease classification. Visualizations of training and validation loss, accuracy, and confusion matrices will enhance understanding and model evaluation. Line plots comparing true values and predicted values will further aid interpretation and insights into classification outcomes. Throughout the project, we will emphasize the importance of preprocessing techniques, feature selection, and model evaluation in building reliable and effective thyroid disease classification and prediction models. By the end of the project, readers will have gained practical knowledge in data exploration, machine learning, deep learning, and GUI development. They will be equipped to apply these techniques to other domains and real-world challenges. The project's comprehensive approach, from data exploration to model development and GUI implementation, ensures a holistic understanding of thyroid disease classification and prediction. It empowers readers to explore applications of data science in healthcare and beyond. The combination of machine learning and deep learning techniques, coupled with the intuitive GUI, offers a powerful framework for thyroid disease classification and prediction. This project serves as a stepping stone for readers to contribute to the field of medical data science. Data-driven approaches in healthcare have the potential to unlock valuable insights and improve outcomes. The focus on thyroid disease classification and prediction in this session showcases the transformative impact of data science in the medical field. Together, let us embark on this journey to advance our understanding of thyroid disease and make a difference in the lives of individuals affected by this condition. Welcome to the Data Science Crash Course on Thyroid Disease Classification and Prediction!

mysql database administrator training: *Exploring Higher Vocational Software Technology Education* Chen Ping, 2024-09-30 *Exploring Higher Vocational Software Technology Education* offers a comprehensive analysis of the current landscape of software technology education in Chinese vocational colleges. It addresses the challenges and opportunities in cultivating skilled software professionals in the rapidly evolving digital economy. The book covers key areas such as curriculum design, practical teaching, and faculty development, providing actionable insights for educators, administrators, and policymakers. Through comparative analysis with international best practices, it offers recommendations for optimizing software technology education to better meet industry demands. The book also features case studies highlighting innovative approaches, such as school-enterprise collaboration and project-driven learning, which are essential in bridging the gap between theory and practice. This work serves as a valuable reference not only for Chinese educators but also for an international audience interested in understanding China's vocational education model and how it can inform global education reform. Whether you're an academic, a practitioner, or a policymaker, this book offers practical pathways for enhancing the quality of technical talent development in today's competitive global market.

mysql database administrator training: DATA SCIENCE CRASH COURSE: Skin Cancer Classification and Prediction Using Machine Learning and Deep Learning Vivian Siahaan, Rismon Hasiholan Sianipar, 2022-02-01 Skin cancer develops primarily on areas of sun-exposed skin, including the scalp, face, lips, ears, neck, chest, arms and hands, and on the legs in women. But it can also form on areas that rarely see the light of day — your palms, beneath your fingernails or toenails, and your genital area. Skin cancer affects people of all skin tones, including those with darker complexions. When melanoma occurs in people with dark skin tones, it's more likely to occur in areas not normally exposed to the sun, such as the palms of the hands and soles of the feet. Dataset used in this project contains a balanced dataset of images of benign skin moles and malignant skin moles. The data consists of two folders with each 1800 pictures (224x244) of the two types of moles. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and CNN 1D. The deep learning models used are CNN and MobileNet.

mysql database administrator training: Oracle Database 11g & MySQL 5.6 Developer Handbook Michael McLaughlin, 2011-09-30 Master Application Development in a Mixed-Platform Environment Build powerful database applications in a mixed environment using the detailed information in this Oracle Press guide. Oracle Database 11g & MySQL 5.6 Developer Handbook lays out programming strategies and best practices for seamlessly operating between the two platforms. Find out how to migrate databases, port SQL dialects, work with Oracle MySQL databases, and configure effective queries. Security, monitoring, and tuning techniques are also covered in this comprehensive volume. Understand Oracle Database 11g and MySQL 5.6 architecture Convert databases between platforms and ensure transactional integrity Create tables, sequences, indexes, views, and user accounts Build and debug PL/SQL, SQL*Plus, SQL/PSM, and MySQL Monitor scripts Execute complex queries and handle numeric and date mathematics Merge data from source tables and set up virtual directories

mysql database administrator training: FIVE PROJECTS: SQLITE AND PYTHON GUI FOR DATA ANALYSIS Vivian Siahaan, Rismon Hasiholan Sianipar, 2022-11-03 PROJECT 1: FULL SOURCE CODE: PRACTICAL DATA SCIENCE WITH SQLITE AND PYTHON GUI In this project, we provide you with the SQLite sample database named chinook. The chinook sample database is a good database for practicing with SQL, especially SQLite. The detailed description of the database can be found on: <https://www.sqlitetutorial.net/sqlite-sample-database/>. There are 11 tables in the chinook sample database: The employee table stores employees data such as employee id, last name, first name, etc. It also has a field named ReportsTo to specify who reports to whom; customers table stores customers data; invoices & invoice_items tables: these two tables store invoice data. The invoice table stores invoice header data and the invoice_items table stores the invoice line items data; The artist table stores artists data. It is a simple table that contains only the artist id and name; The album table stores data about a list of tracks. Each album belongs to one artist. However, one artist may have multiple albums; The media_type table stores media types such as MPEG audio and AAC audio files; genre table stores music types such as rock, jazz, metal, etc; The track table stores the data of songs. Each track belongs to one album; playlist & playlist_track tables: The playlist table store data about playlists. Each playlist contains a list of tracks. Each track may belong to multiple playlists. The relationship between the playlist table and track table is many-to-many. The playlist_track table is used to reflect this relationship. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, and day; the distribution of amount by year, quarter, month, week, day, and hour; the bottom/top 10 sales by employee, the bottom/top 10 sales by customer, the bottom/top 10 sales by customer, the bottom/top 10 sales by artist, the bottom/top 10 sales by genre, the bottom/top 10 sales by play list, the bottom/top 10 sales by customer city, the bottom/top 10 sales by customer city, the payment amount by month with mean

and EWM, the average payment amount by every month, and amount payment in all years. PROJECT 2: FULL SOURCE CODE: SQLITE FOR STUDENTS AND PROGRAMMERS WITH PYTHON GUI In this project, we provide you with a SQLITE version of an Oracle sample database named OT which is based on a global fictitious company that sells computer hardware including storage, motherboard, RAM, video card, and CPU. You can find the detailed structures of the database:

<https://www.oracletutorial.com/getting-started/oracle-sample-database/>. The company maintains the product information such as name, description standard cost, list price, and product line. It also tracks the inventory information for all products including warehouses where products are available. Because the company operates globally, it has warehouses in various locations around the world. The company records all customer information including name, address, and website. Each customer has at least one contact person with detailed information including name, email, and phone. The company also places a credit limit on each customer to limit the amount that customer can owe. Whenever a customer issues a purchase order, a sales order is created in the database with the pending status. When the company ships the order, the order status becomes shipped. In case the customer cancels an order, the order status becomes canceled. In addition to the sales information, the employee data is recorded with some basic information such as name, email, phone, job title, manager, and hire date. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, and day; the distribution of amount by year, quarter, month, week, day, and hour; the distribution of bottom 10 sales by product, top 10 sales by product, bottom 10 sales by customer, top 10 sales by customer, bottom 10 sales by category, top 10 sales by category, bottom 10 sales by status, top 10 sales by status, bottom 10 sales by customer city, top 10 sales by customer city, bottom 10 sales by customer state, top 10 sales by customer state, average amount by month with mean and EWM, average amount by every month, amount feature over June 2016, amount feature over 2017, and amount payment in all years. PROJECT 3: SQLITE FOR DATA ANALYST AND DATA SCIENTIST WITH PYTHON GUI In this project, we will use the SQLite version of BikeStores database as a sample database to help you work with MySQL quickly and effectively. The stores table includes the store's information. Each store has a store name, contact information such as phone and email, and an address including street, city, state, and zip code. The staffs table stores the essential information of staffs including first name, last name. It also contains the communication information such as email and phone. A staff works at a store specified by the value in the store_id column. A store can have one or more staffs. A staff reports to a store manager specified by the value in the manager_id column. If the value in the manager_id is null, then the staff is the top manager. If a staff no longer works for any stores, the value in the active column is set to zero. The categories table stores the bike's categories such as children bicycles, comfort bicycles, and electric bikes. The products table stores the product's information such as name, brand, category, model year, and list price. Each product belongs to a brand specified by the brand_id column. Hence, a brand may have zero or many products. Each product also belongs a category specified by the category_id column. Also, each category may have zero or many products. The customers table stores customer's information including first name, last name, phone, email, street, city, state, zip code, and photo path. The orders table stores the sales order's header information including customer, order status, order date, required date, shipped date. It also stores the information on where the sales transaction was created (store) and who created it (staff). Each sales order has a row in the sales_orders table. A sales order has one or many line items stored in the order_items table. The order_items table stores the line items of a sales order. Each line item belongs to a sales order specified by the order_id column. A sales order line item includes product, order quantity, list price, and discount. The stocks table stores the inventory information i.e. the quantity of a particular product in a specific store. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, day, and hour; the distribution of

amount by year, quarter, month, week, day, and hour; the distribution of bottom 10 sales by product, top 10 sales by product, bottom 10 sales by customer, top 10 sales by customer, bottom 10 sales by category, top 10 sales by category, bottom 10 sales by brand, top 10 sales by brand, bottom 10 sales by customer city, top 10 sales by customer city, bottom 10 sales by customer state, top 10 sales by customer state, average amount by month with mean and EWM, average amount by every month, amount feature over June 2017, amount feature over 2018, and all amount feature. PROJECT 4: SQLITE FOR DATA ANALYSIS AND VISUALIZATION WITH PYTHON GUI In this project, you will use SQLite version of Northwind database which is a sample database that was originally created by Microsoft and used as the basis for their tutorials in a variety of database products for decades. The Northwind database contains the sales data for a fictitious company called "Northwind Traders," which imports and exports specialty foods from around the world. The Northwind database is an excellent tutorial schema for a small-business ERP, with customers, orders, inventory, purchasing, suppliers, shipping, employees, and single-entry accounting. The Northwind dataset includes sample data for the following: Suppliers: Suppliers and vendors of Northwind; Customers: Customers who buy products from Northwind; Employees: Employee details of Northwind traders; Products: Product information; Shippers: The details of the shippers who ship the products from the traders to the end-customers; Orders and Order_Details: Sales Order transactions taking place between the customers & the company. The Northwind sample database includes 11 tables and the table relationships are showcased in the following entity relationship diagram. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the SQLite database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, day, and hour; the distribution of amount by year, quarter, month, week, day, and hour; the distribution of bottom 10 sales by product, top 10 sales by product, bottom 10 sales by customer, top 10 sales by customer, bottom 10 sales by supplier, top 10 sales by supplier, bottom 10 sales by customer country, top 10 sales by customer country, bottom 10 sales by supplier country, top 10 sales by supplier country, average amount by month with mean and ewm, average amount by every month, amount feature over June 1997, amount feature over 1998, and all amount feature. PROJECT 5: ZERO TO MASTERY: THE COMPLETE GUIDE TO LEARNING SQLITE AND PYTHON GUI In this project, we provide you with the SQLite version of The Oracle Database Sample Schemas that provides a common platform for examples in each release of the Oracle Database. The sample database is also a good database for practicing with SQL, especially SQLite. The detailed description of the database can be found on: <http://luna-ext.di.fc.ul.pt/oracle11g/server.112/e10831/diagrams.htm#insertedID0>. The four schemas are a set of interlinked schemas. This set of schemas provides a layered approach to complexity: A simple schema Human Resources (HR) is useful for introducing basic topics. An extension to this schema supports Oracle Internet Directory demos; A second schema, Order Entry (OE), is useful for dealing with matters of intermediate complexity. Many data types are available in this schema, including non-scalar data types; The Online Catalog (OC) subschema is a collection of object-relational database objects built inside the OE schema; The Product Media (PM) schema is dedicated to multimedia data types; The Sales History (SH) schema is designed to allow for demos with large amounts of data. An extension to this schema provides support for advanced analytic processing. The HR schema consists of seven tables: regions, countries, locations, departments, employees, jobs, and job_histories. This book only implements HR schema, since the other schemas will be implemented in the next books.

mysql database administrator training: THREE PROJECTS: SQL SERVER AND PYTHON GUI FOR DATA ANALYSIS Vivian Siahaan, Rismon Hasiholan Sianipar, 2022-11-08 PROJECT 1: FULL SOURCE CODE: SQL SERVER FOR STUDENTS AND DATA SCIENTISTS WITH PYTHON GUI In this project, we provide you with the SQL SERVER version of SQLite sample database named chinook. The chinook sample database is a good database for practicing with SQL, especially PostgreSQL. The detailed description of the database can be found on: <https://www.sqlitetutorial.net/sqlite-sample-database/>. The sample database consists of 11 tables:

The employee table stores employees data such as employee id, last name, first name, etc. It also has a field named ReportsTo to specify who reports to whom; customers table stores customers data; invoices & invoice_items tables: these two tables store invoice data. The invoice table stores invoice header data and the invoice_items table stores the invoice line items data; The artist table stores artists data. It is a simple table that contains only the artist id and name; The album table stores data about a list of tracks. Each album belongs to one artist. However, one artist may have multiple albums; The media_type table stores media types such as MPEG audio and AAC audio files; genre table stores music types such as rock, jazz, metal, etc; The track table stores the data of songs. Each track belongs to one album; playlist & playlist_track tables: The playlist table store data about playlists. Each playlist contains a list of tracks. Each track may belong to multiple playlists. The relationship between the playlist table and track table is many-to-many. The playlist_track table is used to reflect this relationship. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, and day; the distribution of amount by year, quarter, month, week, day, and hour; the bottom/top 10 sales by employee, the bottom/top 10 sales by customer, the bottom/top 10 sales by customer, the bottom/top 10 sales by artist, the bottom/top 10 sales by genre, the bottom/top 10 sales by play list, the bottom/top 10 sales by customer city, the bottom/top 10 sales by customer city, the bottom/top 10 sales by customer city, the payment amount by month with mean and EWM, the average payment amount by every month, and amount payment in all years. PROJECT 2: FULL SOURCE CODE: SQL SERVER FOR DATA ANALYTICS AND VISUALIZATION WITH PYTHON GUI This book uses SQL SERVER version of MySQL-based Sakila sample database. It is a fictitious database designed to represent a DVD rental store. The tables of the database include film, film_category, actor, customer, rental, payment and inventory among others. The Sakila sample database is intended to provide a standard schema that can be used for examples in books, tutorials, articles, samples, and so forth. Detailed information about the database can be found on website:

<https://dev.mysql.com/doc/index-other.html>. In this project, you will develop GUI using PyQt5 to: read SQL SERVER database and every table in it; read every actor in actor table, read every film in films table; plot case distribution of film release year, film rating, rental duration, and categorize film length; plot rating variable against rental_duration variable in stacked bar plots; plot length variable against rental_duration variable in stacked bar plots; read payment table; plot case distribution of Year, Day, Month, Week, and Quarter of payment; plot which year, month, week, days of week, and quarter have most payment amount; read film list by joining five tables: category, film_category, film_actor, film, and actor; plot case distribution of top 10 and bottom 10 actors; plot which film title have least and most sales; plot which actor have least and most sales; plot which film category have least and most sales; plot case distribution of top 10 and bottom 10 overdue customers; plot which customer have least and most overdue days; plot which store have most sales; plot average payment amount by month with mean and EWM; and plot payment amount over June 2005. PROJECT 3: ZERO TO MASTERY: THE COMPLETE GUIDE TO LEARNING SQL SERVER AND DATA SCIENCE WITH PYTHON GUI In this project, we provide you with a SQL SERVER version of an Oracle sample database named OT which is based on a global fictitious company that sells computer hardware including storage, motherboard, RAM, video card, and CPU. The company maintains the product information such as name, description standard cost, list price, and product line. It also tracks the inventory information for all products including warehouses where products are available. Because the company operates globally, it has warehouses in various locations around the world. The company records all customer information including name, address, and website. Each customer has at least one contact person with detailed information including name, email, and phone. The company also places a credit limit on each customer to limit the amount that customer can owe. Whenever a customer issues a purchase order, a sales order is created in the database with the pending status. When the company ships the order, the order status becomes shipped. In case the customer cancels an order, the order status becomes canceled. In addition to the sales

information, the employee data is recorded with some basic information such as name, email, phone, job title, manager, and hire date. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, and day; the distribution of amount by year, quarter, month, week, day, and hour; the distribution of bottom 10 sales by product, top 10 sales by product, bottom 10 sales by customer, top 10 sales by customer, bottom 10 sales by category, top 10 sales by category, bottom 10 sales by status, top 10 sales by status, bottom 10 sales by customer city, top 10 sales by customer city, bottom 10 sales by customer state, top 10 sales by customer state, average amount by month with mean and EWM, average amount by every month, amount feature over June 2016, amount feature over 2017, and amount payment in all years.

mysql database administrator training: FULL SOURCE CODE: POSTGRESQL FOR DATA SCIENTISTS AND DATA ANALYSTS WITH PYTHON GUI Vivian Siahaan, Rismon Hasiholan Sianipar, 2022-09-06 In this project, we will use the PostgreSQL version of SQL Server based BikeStores as a sample database to help you work with PostgreSQL quickly and effectively. The detailed structure of database can be found at: <https://www.sqlservertutorial.net/sql-server-sample-database/>. The stores table includes the store's information. Each store has a store name, contact information such as phone and email, and an address including street, city, state, and zip code. The staffs table stores the essential information of staffs including first name, last name. It also contains the communication information such as email and phone. A staff works at a store specified by the value in the store_id column. A store can have one or more staffs. A staff reports to a store manager specified by the value in the manager_id column. If the value in the manager_id is null, then the staff is the top manager. If a staff no longer works for any stores, the value in the active column is set to zero. The categories table stores the bike's categories such as children bicycles, comfort bicycles, and electric bikes. The products table stores the product's information such as name, brand, category, model year, and list price. Each product belongs to a brand specified by the brand_id column. Hence, a brand may have zero or many products. Each product also belongs a category specified by the category_id column. Also, each category may have zero or many products. The customers table stores customer's information including first name, last name, phone, email, street, city, state, zip code, and photo path. The orders table stores the sales order's header information including customer, order status, order date, required date, shipped date. It also stores the information on where the sales transaction was created (store) and who created it (staff). Each sales order has a row in the sales_orders table. A sales order has one or many line items stored in the order_items table. The order_items table stores the line items of a sales order. Each line item belongs to a sales order specified by the order_id column. A sales order line item includes product, order quantity, list price, and discount. The stocks table stores the inventory information i.e. the quantity of a particular product in a specific store. In this project, you will write Python script to create every table and insert rows of data into each of them. You will develop GUI with PyQt5 to each table in the database. You will also create GUI to plot: case distribution of order date by year, quarter, month, week, day, and hour; the distribution of amount by year, quarter, month, week, day, and hour; the distribution of bottom 10 sales by product, top 10 sales by product, bottom 10 sales by customer, top 10 sales by customer, bottom 10 sales by category, top 10 sales by category, bottom 10 sales by brand, top 10 sales by brand, bottom 10 sales by customer city, top 10 sales by customer city, bottom 10 sales by customer state, top 10 sales by customer state, average amount by month with mean and EWM, average amount by every month, amount feature over June 2017, amount feature over 2018, and all amount feature.

mysql database administrator training: Data Science and Deep Learning Workshop For Scientists and Engineers Vivian Siahaan, Rismon Hasiholan Sianipar, 2021-11-04 WORKSHOP 1: In this workshop, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to implement deep learning on recognizing traffic signs using GTSRB dataset, detecting brain tumor using Brain Image MRI dataset, classifying gender, and recognizing

facial expression using FER2013 dataset In Chapter 1, you will learn to create GUI applications to display line graph using PyQt. You will also learn how to display image and its histogram. In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, Pandas, NumPy and other libraries to perform prediction on handwritten digits using MNIST dataset with PyQt. You will build a GUI application for this purpose. In Chapter 3, you will learn how to perform recognizing traffic signs using GTSRB dataset from Kaggle. There are several different types of traffic signs like speed limits, no entry, traffic signals, turn left or right, children crossing, no passing of heavy vehicles, etc. Traffic signs classification is the process of identifying which class a traffic sign belongs to. In this Python project, you will build a deep neural network model that can classify traffic signs in image into different categories. With this model, you will be able to read and understand traffic signs which are a very important task for all autonomous vehicles. You will build a GUI application for this purpose. In Chapter 4, you will learn how to perform detecting brain tumor using Brain Image MRI dataset provided by Kaggle (<https://www.kaggle.com/navoneel/brain-mri-images-for-brain-tumor-detection>) using CNN model. You will build a GUI application for this purpose. In Chapter 5, you will learn how to perform classifying gender using dataset provided by Kaggle (<https://www.kaggle.com/cashutosh/gender-classification-dataset>) using MobileNetV2 and CNN models. You will build a GUI application for this purpose. In Chapter 6, you will learn how to perform recognizing facial expression using FER2013 dataset provided by Kaggle (<https://www.kaggle.com/nicolejyt/facialexpressionrecognition>) using CNN model. You will also build a GUI application for this purpose.

WORKSHOP 2: In this workshop, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to implement deep learning on classifying fruits, classifying cats/dogs, detecting furnitures, and classifying fashion. In Chapter 1, you will learn to create GUI applications to display line graph using PyQt. You will also learn how to display image and its histogram. Then, you will learn how to use OpenCV, NumPy, and other libraries to perform feature extraction with Python GUI (PyQt). The feature detection techniques used in this chapter are Harris Corner Detection, Shi-Tomasi Corner Detector, and Scale-Invariant Feature Transform (SIFT). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying fruits using Fruits 360 dataset provided by Kaggle (<https://www.kaggle.com/moltean/fruits/code>) using Transfer Learning and CNN models. You will build a GUI application for this purpose. In Chapter 3, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying cats/dogs using dataset provided by Kaggle (<https://www.kaggle.com/chetankv/dogs-cats-images>) using Using CNN with Data Generator. You will build a GUI application for this purpose. In Chapter 4, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting furnitures using Furniture Detector dataset provided by Kaggle (<https://www.kaggle.com/akkithetechie/furniture-detector>) using VGG16 model. You will build a GUI application for this purpose. In Chapter 5, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying fashion using Fashion MNIST dataset provided by Kaggle (<https://www.kaggle.com/zalando-research/fashionmnist/code>) using CNN model. You will build a GUI application for this purpose.

WORKSHOP 3: In this workshop, you will implement deep learning on detecting vehicle license plates, recognizing sign language, and detecting surface crack using TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting vehicle license plates using Car License Plate Detection dataset provided by Kaggle (<https://www.kaggle.com/andrewmvd/car-plate-detection/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform sign language recognition using Sign Language Digits Dataset provided by Kaggle (<https://www.kaggle.com/ardamavi/sign-language-digits-dataset/download>). In Chapter 3, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to

perform detecting surface crack using Surface Crack Detection provided by Kaggle (<https://www.kaggle.com/arunrk7/surface-crack-detection/download>). WORKSHOP 4: In this workshop, implement deep learning-based image classification on detecting face mask, classifying weather, and recognizing flower using TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting face mask using Face Mask Detection Dataset provided by Kaggle (<https://www.kaggle.com/omkargurav/face-mask-dataset/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to classify weather using Multi-class Weather Dataset provided by Kaggle (<https://www.kaggle.com/pratik2901/multiclass-weather-dataset/download>). WORKSHOP 5: In this workshop, implement deep learning-based image classification on classifying monkey species, recognizing rock, paper, and scissor, and classify airplane, car, and ship using TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to classify monkey species using 10 Monkey Species dataset provided by Kaggle (<https://www.kaggle.com/slothkong/10-monkey-species/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to recognize rock, paper, and scissor using 10 Monkey Species dataset provided by Kaggle (<https://www.kaggle.com/sanikamal/rock-paper-scissors-dataset/download>). WORKSHOP 6: In this workshop, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Chapter 1, you will learn how to use Scikit-Learn, Scipy, and other libraries to perform how to predict traffic (number of vehicles) in four different junctions using Traffic Prediction Dataset provided by Kaggle (<https://www.kaggle.com/fedesoriano/traffic-prediction-dataset/download>). This dataset contains 48.1k (48120) observations of the number of vehicles each hour in four different junctions: 1) DateTime; 2) Junction; 3) Vehicles; and 4) ID. In Chapter 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict heart attack using Heart Attack Analysis & Prediction Dataset provided by Kaggle (<https://www.kaggle.com/rashikrahmanpritom/heart-attack-analysis-prediction-dataset/download>). WORKSHOP 7: In this workshop, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Project 1, you will learn how to use Scikit-Learn, NumPy, Pandas, Seaborn, and other libraries to perform how to predict early stage diabetes using Early Stage Diabetes Risk Prediction Dataset provided by Kaggle (<https://www.kaggle.com/ishandutta/early-stage-diabetes-risk-prediction-dataset/download>). This dataset contains the sign and symptom data of newly diabetic or would be diabetic patient. This has been collected using direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor. You will develop a GUI using PyQt5 to plot distribution of features, feature importance, cross validation score, and predicted values versus true values. The machine learning models used in this project are Adaboost, Random Forest, Gradient Boosting, Logistic Regression, and Support Vector Machine. In Project 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict breast cancer using Breast Cancer Prediction Dataset provided by Kaggle (<https://www.kaggle.com/merishnasuwal/breast-cancer-prediction-dataset/download>). Worldwide, breast cancer is the most common type of cancer in women and the second highest in terms of mortality rates. Diagnosis of breast cancer is performed when an abnormal lump is found (from self-examination or x-ray) or a tiny speck of calcium is seen (on an x-ray). After a suspicious lump is found, the doctor will conduct a diagnosis to determine whether it is cancerous and, if so, whether it has spread to other parts of the body. This breast cancer dataset was obtained from the University of Wisconsin Hospitals, Madison from Dr. William H. Wolberg. You will develop a GUI using PyQt5 to plot distribution of features, pairwise relationship, test scores, predicted values versus true values,

confusion matrix, and decision boundary. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. WORKSHOP 8: In this workshop, you will learn how to use Scikit-Learn, TensorFlow, Keras, NumPy, Pandas, Seaborn, and other libraries to implement brain tumor classification and detection with machine learning using Brain Tumor dataset provided by Kaggle. This dataset contains five first order features: Mean (the contribution of individual pixel intensity for the entire image), Variance (used to find how each pixel varies from the neighboring pixel 0, Standard Deviation (the deviation of measured Values or the data from its mean), Skewness (measures of symmetry), and Kurtosis (describes the peak of e.g. a frequency distribution). It also contains eight second order features: Contrast, Energy, ASM (Angular second moment), Entropy, Homogeneity, Dissimilarity, Correlation, and Coarseness. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. The deep learning models used in this project are MobileNet and ResNet50. In this project, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, training loss, and training accuracy. WORKSHOP 9: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform COVID-19 Epitope Prediction using COVID-19/SARS B-cell Epitope Prediction dataset provided in Kaggle. All of three datasets consists of information of protein and peptide: parent_protein_id : parent protein ID; protein_seq : parent protein sequence; start_position : start position of peptide; end_position : end position of peptide; peptide_seq : peptide sequence; chou_fasman : peptide feature; emini : peptide feature, relative surface accessibility; kolaskar_tongaonkar : peptide feature, antigenicity; parker : peptide feature, hydrophobicity; isoelectric_point : protein feature; aromacity: protein feature; hydrophobicity : protein feature; stability : protein feature; and target : antibody valence (target value). The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, Gradient Boosting, XGB classifier, and MLP classifier. Then, you will learn how to use sequential CNN and VGG16 models to detect and predict Covid-19 X-RAY using COVID-19 Xray Dataset (Train & Test Sets) provided in Kaggle. The folder itself consists of two subfolders: test and train. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, training loss, and training accuracy. WORKSHOP 10: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform analyzing and predicting stroke using dataset provided in Kaggle. The dataset consists of attribute information: id: unique identifier; gender: Male, Female or Other; age: age of the patient; hypertension: 0 if the patient doesn't have hypertension, 1 if the patient has hypertension; heart_disease: 0 if the patient doesn't have any heart diseases, 1 if the patient has a heart disease; ever_married: No or Yes; work_type: children, Govt_jov, Never_worked, Private or Self-employed; Residence_type: Rural or Urban; avg_glucose_level: average glucose level in blood; bmi: body mass index; smoking_status: formerly smoked, never smoked, smokes or Unknown; and stroke: 1 if the patient had a stroke or 0 if not. The models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and CNN 1D. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, learning curve, performace of the model, scalability of the model, training loss, and training accuracy. WORKSHOP 11: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform classifying and predicting Hepatitis C using dataset provided by UCI Machine Learning Repository. All attributes in dataset except Category and Sex are numerical. Attributes 1 to 4 refer to the data of the patient: X (Patient ID/No.), Category (diagnosis) (values: '0=Blood Donor',

'0s=suspect Blood Donor', '1=Hepatitis', '2=Fibrosis', '3=Cirrhosis'), Age (in years), Sex (f,m), ALB, ALP, ALT, AST, BIL, CHE, CHOL, CREA, GGT, and PROT. The target attribute for classification is Category (2): blood donors vs. Hepatitis C patients (including its progress ('just' Hepatitis C, Fibrosis, Cirrhosis)). The models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and ANN 1D. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, learning curve, performance of the model, scalability of the model, training loss, and training accuracy.

mysql database administrator training: SQLITE AND DATA SCIENCE: QUERIES AND VISUALIZATION WITH PYTHON GUI Vivian Siahaan, Rismon Hasiholan Sianipar, 2022-06-15 In this project, you will develop GUI with PyQt5 to: utilize Push Button, Combo Box, Table Widget, Line Edit, and Widget, read and create SQLite database and every table in it, plot case distribution of film release year, film rating, rental duration, and categorize film length; plot rating variable against rental_duration variable in stacked bar plots; plot length variable against rental_duration variable in stacked bar plots; read payment table; plot case distribution of Year, Day, Month, Week, and Quarter of payment; plot which year, month, week, days of week, and quarter have most payment amount; read film list by joining five tables: category, film_category, film_actor, film, and actor; plot case distribution of top 10 and bottom 10 actors; plot which film title have least and most sales; plot which actor have least and most sales; plot which film category have least and most sales; plot case distribution of top 10 and bottom 10 overdue costumers; plot which customer have least and most overdue days; plot which store have most sales; plot average payment amount by month with mean and EWM; and plot payment amount over June 2005. This project uses the Sakila sample database which is a fictitious database designed to represent a DVD rental store. The tables of the database include film, film_category, actor, film_actor, customer, rental, payment and inventory among others. You can download the SQLite from <https://dev.mysql.com/doc/sakila/en/>.

mysql database administrator training: Hands-On Guide On Data Science and Machine Learning with Python GUI Vivian Siahaan, 2021-07-08 In this book, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Chapter 1, you will learn how to use Scikit-Learn, Scipy, and other libraries to perform how to predict traffic (number of vehicles) in four different junctions using Traffic Prediction Dataset provided by Kaggle (<https://www.kaggle.com/fedesoriano/traffic-prediction-dataset/download>). This dataset contains 48.1k (48120) observations of the number of vehicles each hour in four different junctions: 1) DateTime; 2) Junction; 3) Vehicles; and 4) ID. In Chapter 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict heart attack using Heart Attack Analysis & Prediction Dataset provided by Kaggle (<https://www.kaggle.com/rashikrahmanpritom/heart-attack-analysis-prediction-dataset/download>). In Chapter 3, you will learn how to use Scikit-Learn, SVM, NumPy, Pandas, and other libraries to perform how to predict early stage diabetes using Early Stage Diabetes Risk Prediction Dataset provided by Kaggle (<https://www.kaggle.com/ishandutta/early-stage-diabetes-risk-prediction-dataset/download>). This dataset contains the sign and symptpom data of newly diabetic or would be diabetic patient. This has been collected using direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor.

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