CPE_Group9 CPE106L/B3

Engr. Dionis Padilla April 29, 2024

LABORATORY EXERCISE #5

Data Modeling and Database Systems

PreLab

A Guide to SQL.
Philip J. Pratt; et al. 9780357419830
Chapters 1 & 2

Core Python Programming.
R. Nageswara Rao. 9789351198918
Chapter 24

Python Projects.
Laura Cassell. 9781118908891
Chapter 3

Readings, Insights, and Reflection:

- Torres, Nicole Allyson B.
    - (A Guide to SQL - Chapters 1 & 2) and (Core Python Programming - Chapter 24)
    - "A Guide to SQL" by Philip J. Pratt et al. is an excellent book that takes a deep dive into the core concepts of databases, emphasizing the significance of comprehending databases' nature and design principles. The book offers a practical approach, using real-world examples from various industries to provide a comprehensive understanding of the unique database requirements faced by different organizations. It covers multiple topics, such as database normalization, data modeling, and design fundamentals, highlighting the significance of creating efficient and precise database structures. The book's practical approach, illustrated with real-world examples, makes it an excellent guide for professionals seeking to develop reliable data processing systems and make informed decisions in modern information systems.

    - Chapter 24 of the book "Core Python Programming" by R. Nageswara Rao provides a detailed guide on advanced programming principles in Python. The chapter mainly focuses on threading and multiprocessing and explains their similarities and differences. It also covers the threading module, which offers an effective way of creating and managing threads. The chapter also explains

synchronization techniques such as locks, semaphores, and condition variables that help prevent race conditions in multithreaded programs. Moreover, the chapter delves into multiprocessing and utilizes the multiprocessing module to demonstrate how to use multiple CPU cores for parallel processing tasks. In summary, this chapter offers valuable insights into concurrent programming paradigms in Python, enabling readers to create efficient and scalable applications.

- Pangilinan, Cromuel
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- Gavino, Karl Ignatius G.
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- Alonzo, Xavier
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Answer to Questions:

Short Answer:

1. What are DML and DDL statements in Structured Query Language? Give examples of each.

DML (Data Manipulation Language) is the language used to modify data stored in a database. It includes frequently used commands like select, insert, delete, and update. However, DDL (Data Definition Language) manages and structures the database by creating, altering, and deleting objects.

2. What are the categories of SQLite Functions? Give 3 examples of each category.

SQLite is divided into three main categories of functions: mathematical, string, and date/time. The mathematical functions include ABS(), ROUND(), and SIN(). The string functions include LENGTH(), UPPER(), and SUBSTR(). Finally, the date and time functions include CURRENT_DATE, DATE(), and STRFTIME(). These are the most commonly used functions essential for working with SQLite.

3. How do you check if you have SQLite installed in system using the Linux termina.

To determine whether SQLite is installed on your Linux system, you can use the command-line interface and type 'sqlite3 --version' in the terminal. If the SQLite is installed, the terminal will display the version of the installed SQLite. This can be useful in verifying that you have the correct version of SQLite installed or in troubleshooting issues related to SQLite installation.