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I. GETTING STARTED

II. DATABASE DESIGN & IMPLEMENTATION

III. SELECTED TOPICS

Introduction (C-1)
Introduction to Structured Query Language (C-2)
Rel. Model and Normalization (C-3)
Database Design and Normalization (C-4)
Data Modeling with the ER Model (C-5)
Transforming Data Models into Database Designs (C-6)
SQL for Database Construction (C-7)
Managing Multiuser Databases (C-9)
XML (C-13)
NOTES FOR CLASS SESSION

STARTING POINTS

Questions to begin our deliberation

1. What is the purpose of SQL DDL statements?
2. Why should you understand how triggers and stored procedures work and how they influence database processing?

Student Learning Objectives ( Desired Outcomes )

At the end of in-class and outside-class work on this topic, you should be able to:

1. Create and manage table structures using SQL. [Synthesis]
2. Explain how referential integrity actions are implemented in SQL code. [Comprehension]
3. Create constraints that use the CHECK clause in SQL. [Synthesis]
4. Discuss several uses for views. [Comprehension]
5. Use SQL to create views. [Application]
6. Use Views to query database tables. [Application]
7. Discuss how SQL is used in an application program. [Comprehension]
8. Discuss how to use triggers to enforce integrity constraints. [Comprehension]
9. Discuss how to use triggers to implement referential integrity actions. [Comprehension]
10. Discuss how to create stored procedures in SQL. [Comprehension]

QUESTIONS TO EXPLORE READINGS

Q 1. What is the difference between database applications and the DBMS?

Q 2. What is the difference between a view in terms of the logical structure and its materialization in the form of a form or report?

Q 3. How can views be used to implement certain types of security?

Q 4. What is the role of SQL in application processing?

Q 5. What is the role of triggers in enforcing business rules?

In-Class Exercise 7
Points to consider (Please take time review all the points before starting the exercise):

- **SQL Data Definition Language (DDL)**
  - CREATE TABLE
  - ALTER TABLE
  - DROP TABLE
- **SQL Data Manipulation Language (DML)**
  - INSERT
  - UPDATE
  - DELETE
- **Additional join forms**
  - Alternative join syntax
  - Outer joins

Exercise:

Use the database design that we created in the previous in-class assignment and create a SQL DDL script to construct the database:
Take-Home Assignment 7

Text Chapter 7: SQL for Database Construction and Application Processing

This assignment is a continuation of the previous take-home assignment. Please read the solution for the previous assignment before starting this one.

Use the database design that we created in the previous take-home assignment and create a SQL DDL script to construct the database. Execute the script on the empty database created for your team on the virtual server with the name AH7-<section name>-<team number>.

Database Design:
Study Guide Chapter 7 (SG-Ch7)
http://wps.prenhall.com/bp_kroenke_database_10/

Self-Test 7 (ST7)

Available at the uLearn site for the course.