

**Chapter 1: Advanced SQL Programming Techniques**

You will learn:

- Performance factors related to SQL clauses.
- Isolation level with specified SQL clauses.
- Selecting the appropriate join operation and recognizing the join coding conventions.
- Coding joins with nested expressions.
- Coding subqueries and correlated subqueries.
- Creating and utilizing user defined functions.

**Chapter 2: Dynamic SQL Processing**

You will learn:

- Different types of Dynamic SQL.
- Restrictions of host languages; with the focus on the COBOL language.
- Effects of Dynamic SQL on performance and locking.
- Caching Dynamic SQL statements.
- Utilization of governors for Dynamic SQL.
- Dynamic SQL coding techniques.

**Chapter 3: Stored Procedures**

You will learn:

- Features and benefits of using stored procedures.
- Stored procedure coding techniques and setup commands.
- How to use special registers in stored procedures.
- How to run a stored procedure.

**Chapter 4: Triggers**

You will learn:

- How and when to implement triggers.
- Using the insert, update, and delete triggers.
- Issues relating to coding of nested triggers.
- How to implement business rules.
- Restrictions within a trigger.

**Chapter 5: Planning for Concurrency and Locks**

You will learn:

- Issues of concurrency and locks; focusing on lost updates and deadly embrace.
- Data design issues which effect concurrency and locks.
- Architecture of locks - mode, size, and duration.
- Bind options and how it effects locks and concurrency.
- Problems specific to running CICS/DB2 applications.

**Chapter 6: General Efficiency Techniques**

You will learn:

- Coding techniques for improving efficiency.
- Factors which affect performance.
- Maintained statistics and how it can be used for monitoring performance.
- Using cursor and color effectively.
- Optimize screen output.
- Screen testing techniques.

**Chapter 7: Table and View Design**

You will learn:

- Logical and physical table design.
- How to use indexes and the index type should be created.
- Benefits and problems associated with nullable columns.
- Options in the Create Tablespace, Create Table and Create Index that need to be evaluated by the DBA and application programmer.

**Chapter 8: Performance and Tuning**

You will learn:

- Techniques for improving performance.
- The affects of ORed predicates on index usage and performance.
- Checking the performance of subqueries and joins.
- Determining the type and number of locks.
- Using EXPLAIN and Visual EXPLAIN for optimizing SQL statements.
- Issues concerning very large tables.
- ATI usage.

**Chapter 9: Recovery and Security**

You will learn:

- Recovery architecture - logs and associated checkpoints.
- Recovery and its effect on performance.
- What an application programmer can do to improve recovery.

**Chapter 10: Call Attachment Facility**

You will learn:

- Features of Call Attach Facility.
- When to use the Call Attach Facility.
- Coding techniques in COBOL for CAF.
- Coding restrictions in COBOL and CAF.
- Use of the DSNALI module.