Getting Started

**Introduction**

1. What is SQL
2. Installing MSSQL on Mac
3. Installing MSSQL on Windows
4. Creating the Databases

**Retrieving Data from a Single Table**

1. The SELECT Statement
2. The SELECT Clause
3. The WHERE Clause
4. The AND, OR and NOT Operators
5. The IN Operator
6. The BETWEEN Operator
7. The LIKE Operator
8. The REGEXP Operator
9. The IS NULL Operator
10. The ORDER BY Clause
11. The LIMIT Clause

**Retrieving Data from Multiple Tables**

1. Inner Joins
2. Joining Across Databases
3. Self Joins
4. Joining Multiple Tables
5. Compound Join Conditions
6. Implicit Join Syntax
7. Outer Joins
8. Outer Join Between Multiple Tables
9. Self-Outer Joins
10. The USING Clause
11. Natural Joins
12. Cross Joins
13. Unions

**Inserting, Updating, and Deleting Data**

1. Column Attributes
2. Inserting a Row
3. Inserting Multiple Rows
4. Inserting Hierarchical Rows
5. Creating a Copy of a Table
6. Updating a Single Row
7. Updating Multiple Rows
8. Using Subqueries in Updates
9. Deleting Rows
10. Restoring the Databases

**Summarizing Data**

1. Aggregate Functions
2. The GROUP BY Clause
3. The HAVING Clause
4. The ROLLUP Operator

**Writing Complex Query**

1. Introduction
2. Subqueries
3. The IN Operator
4. Subqueries vs Joins
5. The ALL Keyword
6. The ANY Keyword
7. Correlated Subqueries
8. The EXISTS Operator
9. Subqueries in the SELECT Clause
10. Subqueries in the FROM Clause

**Essential MSSQL Functions**

1. Numeric Functions
2. String Functions
3. Date Functions in MSSQL
4. Formatting Dates and Times
5. Calculating Dates and Times
6. The IFNULL and COALESCE Functions
7. The IF Function
8. The CASE Operator

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1. Creating Views
2. Altering or Dropping Views
3. Updatable Views
4. The With Option Check Clause
5. Other Benefits of Views
6. Stored Procedures

**What are Stored Procedures**

1. Creating a Stored Procedure
2. Creating Procedures Using MSSQL Workbench
3. Dropping Stored Procedures
4. Parameters
5. Parameters with Default Value
6. Parameter Validation
7. Output Parameters
8. Variables
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1. Triggers
2. Viewing Triggers
3. Dropping Triggers
4. Using Triggers for Auditing
5. Events
6. Viewing, Dropping and Altering Events

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1. Transactions
2. Creating Transactions
3. Concurrency and Locking
4. Concurrency Problems
5. Transaction Isolation Levels
6. Read Uncommitted Isolation Level
7. Read Committed Isolation Level
8. Repeatable Read Isolation Level
9. Serializable Isolation Level
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4. Logical Models
5. Physical Models
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10. 1NF- First Normal Form
11. Link Tables
12. 2NF- Second Normal Form
13. 3NF- Third Normal Form
14. My Pragmatic Advice
15. Don't Model the Universe
16. Forward Engineering a Model
17. Synchronizing a Model with a Database
18. Reverse Engineering a Database
19. Project- Flight Booking System
20. Solution- Conceptual Model
21. Solution- Logical Model
22. Project - Video Rental Application
23. Solution- Conceptual Model
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8. Order of Columns in Composite Indexes
9. When Indexes are Ignored
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