

# SQL Programming: Level 1

What You Will Learn.....	1
Writing Stored Procedures.....	2
Understanding System Procedures .....	2
Executing Stored Procedures .....	2
Creating User-Defined Stored Procedures.....	3
Executing a User-Defined Stored Procedure .....	4
Displaying the Contents of a Stored Procedure .....	4
Modifying a Stored Procedure .....	5
Deleting a Stored Procedure .....	5
Defining and Using Variables.....	6
Using Declared Variables in Your Stored Procedures.....	6
Using Parameter Variables in Your Stored Procedures.....	9
Commenting Your Code.....	15
Exercise 1: Writing Simple Stored Procedures.....	16
Selecting and Manipulating Data.....	17
Selecting Data .....	17
Manipulating Data .....	20
Using the @@ROWCOUNT Function .....	23
Exercise 2: Selecting and Manipulating Data.....	24
Writing Conditional IF Statements .....	25
Writing Simple IF Statements.....	25
Executing a Block of Statements .....	26
Adding an ELSE Clause .....	26
Evaluating Multiple Conditions.....	27
Dealing with NULL Values and Constructing Complex Conditions .....	28
Using SQL Server Data to Make Decisions .....	30
Exercise 3: Writing IF Statements .....	34
Using the RETURN Statement to Exit a Procedure .....	36
Testing for the Existence of Data.....	38
Using the CASE Function for Conditional Processing.....	39
Using the Simple CASE Function .....	39
Using the Searched CASE Function.....	41
Using the CASE Function with SQL Server Data.....	43

Exercise 4: Using the CASE Function.....	45
Working with Loops .....	46
Writing WHILE Loops .....	46
Testing the Loop Condition .....	47
Using a Counter .....	48
Breaking Out of a Loop .....	49
Using CONTINUE to Continue a Loop.....	50
Creating an Infinite Loop.....	51
Using Loops to Process SQL Server Data .....	52
Exercise 5: Working with Loops .....	54
Controlling Transactions in Your Procedures.....	55
Conditionally Committing or Rolling Back Changes .....	55
Working with Cursors.....	57
Managing Cursors.....	57
Fetching Data into Variables .....	61
Processing All Rows in the Cursor .....	63
Using the @@FETCH_STATUS Function.....	64
Using a Parameter Variable with a Cursor .....	66
Using Cursors for Reporting.....	67
Exercise 6: Using Basic Cursors.....	69
Working with More Advanced Cursors .....	70
Using the SCROLL Option.....	70
Using Cursors for Updates.....	71
Nesting Cursors.....	73
Understanding the Limitations of Cursors .....	76
Exercise 7: Using Advanced Cursors (Optional).....	77
Handling Exceptions.....	79
Using the TRY...CATCH Construct .....	79
Using Error-Handling Functions to Retrieve Error Information .....	80
Displaying Customized Error Messages.....	81
Exercise 8: Handling Exceptions .....	87
Appendix A: Class Tables .....	88
Appendix B: SQL Server Date Functions.....	92
Converting Dates to Strings .....	94
Appendix C: Solutions to Exercises .....	95