

# Introduction to Programming Concepts

Introduction.....	1
How Programs Work .....	1
Program Design .....	2
Working with VBScript.....	3
Writing a VBScript Program .....	3
Running a VBScript Program.....	3
Input and Output .....	4
Output .....	4
Constants.....	5
Arithmetic Operators .....	6
Rules of Precedence for Arithmetic Operators .....	7
Using Parentheses with Arithmetic Operators.....	8
Program Comments .....	9
Variables .....	10
Declaring Variables .....	10
Rules for Naming Variables.....	11
Data Types .....	11
Assignment Statements.....	14
Concatenation .....	15
Working From Line to Line.....	16
Output .....	16
Program Code .....	16
Exercise 1: Generating Output.....	17
Input .....	18
Formatting Output.....	19
Exercise 2: User Inputs .....	21
Control Structures .....	22
Simple If Statements.....	22
If... Then... End If Statements.....	22
Else Clauses in the If... Then... End If Statement .....	24
Single Line If Statements (Optional).....	25
Multiple Statements on One Line .....	26

Logical Operators.....	27
Rules of Precedence of Logical Operators.....	27
Example of Logical Operators.....	28
Exercise 3: Using If Statements.....	29
Looping Control Structures.....	30
For...Next Statements.....	30
Accumulation.....	31
Averaging Using Accumulated Totals.....	32
Exiting a Loop Before Termination.....	33
Delay Loops.....	33
Exercise 4: Using For/Next Statements.....	34
More Looping Statements.....	35
Do...Loop Statements.....	35
Counting and Accumulation.....	37
Variables, Numbers and Data Type Conversions.....	39
Exercise 5: Using Do...Loops.....	40
More Branching Control Structures.....	41
Nested If and The ElseIf Clause.....	41
Select Case Statements.....	42
Exercise 6: Using Branching Control Structures.....	44
Arrays.....	45
Exercise 7: Using Arrays.....	48
Functions.....	49
The TypeName() Function.....	49
Type Conversion Functions.....	50
The Int() Function.....	50
Rounding Numbers.....	51
Random Numbers.....	52
Producing Random Integers and Large Random Integers.....	53
String Functions.....	56
ASCII String Functions.....	56
String Character Functions.....	57
Exercise 8: Working With Strings.....	59

Object-Oriented Programming.....	60
Terminology.....	60
Using Objects.....	60
Object Example.....	61
Exercise 9: Object-Oriented Programming.....	63
Appendix A: Rules of Precedence and Operators.....	64
Appendix B: Reserved Words in Microsoft VBScript .....	65
Appendix C: Some Miscellaneous Functions .....	66
Appendix D: ASCII Tables.....	69
Appendix E: Solutions to Exercises.....	72