

Using SQL with SQL Developer

4.0.3 Part I

Section	Title	Page
One	Introduction to SQL	2
	– Definition	3
	– Usage of SQL	4
	– What is SQL used for ?	5
	– Who uses SQL ?	6
	– Definition of a Database	7
	– What is SQL Developer ?	8
Two	The SQL Developer Interface	9
	– Introduction	10
	– Connections	12
	– Worksheet	15
Three	Connections	16
	– Toolbar and Menus	17
	– Viewing Objects	18
	– Viewing Object Structure	19
	– Table Structure	20
	– Column Structure	22
	– Mandatory Columns	26
	– Data Default	27
	– The Number Datatype	28
	– The Varchar2 Datatype	29
	– The Date Datatype	30
	– Large Objects	31
	– The BLOB Datatype	32
	– The CLOB Datatype	33
Four	Object Details Dialog	34
	– Introduction	35
	– Columns Tab	36
	– Columns Tab (Resizing columns)	37
	– Columns Tab (Moving columns)	38
	– Columns Tab (Sorting columns)	39
	– Columns Tab (Filter)	40
	– Columns Tab (Icons)	41
	– Columns Tab (Right Click)	42
	– Data Tab	43
	– Data Tab (Single Record View)	44
	– Data Tab (Count Rows)	45
	– Data Tab (Viewing Blobs and Clobs)	47
	– Data Tab (Viewing Blobs)	48
	– Constraints Tab	49
	– Grants Tab	51
	– Statistics Tab	52
	– Triggers Tab	53
	– Flashback Tab	54
	– Dependencies Tab	55
	– Details Tab	56
– Partitions Tab	57	
– Indexes Tab	58	
		59

Using SQL with SQL Developer

4.0.3 Part I

Section	Title	Page
	– SQL Tab	60
	– <i>Exercise One</i>	62
Five	Limiting Records in the Data Tab	73
	– Introduction	74
	– Usage	75
	– Using Varchar2	76
	– Case Sensitivity	77
	– Limiting Dates	78
	– Invalid Identifier	79
	– Invalid Number	80
	– Direct Comparison	81
	– Value Comparison	83
	– Column Comparison	85
	– Range Comparison	86
	– List Comparison	89
	– Wildcard Comparison	92
	– Null Values	96
	– Combining Filters	97
	– AND Filters	98
	– OR Filters	99
	– Complex Filters	100
	– <i>Exercise Two</i>	101
Six	Ordering Records in the Data Tab	111
	– Introduction	112
	– Examples	113
Seven	SQL Worksheet	114
	– Introduction	115
	– Opening in SQL Developer	116
	– Creating an SQL Statement	117
	– Executing an SQL Statement	119
	– Formatting the SQL Statement	120
	– SQL Syntax	121
	– Labelling Selected Columns (Column Aliases)	123
	– Using Literals	126
	– Database Variables and Sys.Dual	127
	– Saving SQL to a File	129
	– Opening and Executing a File	131
	– Commenting Out Lines	132
	– Identifying Amended Files	134
	– SQL History	135
	– Miscellaneous Commands	136
	– Query Result Buttons	137
	– Find / Highlight	142
	– Searching the Output	143
	– <i>Exercise Three</i>	145
Eight	Manipulating SQL Output	151
	– Introduction	152
	– Functions	153
	– Upper and Lower	156

Using SQL with SQL Developer

4.0.3 Part I

Section	Title	Page
	- Round	157
	- Ceil and Floor	159
	- Count	160
	- Using '*' in Selections	161
	- Sum	162
	- To_Char	163
	- To_Char (Number Examples)	164
	- To_Char (Date Examples)	166
	- Substr	168
	- Substr Examples	169
	- Decode	170
	- Combining Functions	172
	- Concatenating Columns	173
	- Performing Mathematics	175
Nine	Snippets	177
	- Introduction	178
	- Topography	179
	- Using Snippets with the SQL Worksheet	180
	- Adding User Defined Snippets	183
	- Adding User Defined Category	185
	- Editing User Defined Snippets	187
	- <i>Exercise Four</i>	188
Ten	Limiting Data in the SQL Worksheet	197
	- The Where Clause	198
	- Using Functions within the Where Clause	200
	- Using Lower with a Where Clause	201
	- Using Substr with a Where Clause	202
	- Using NVL with a Where Clause	203
	- Using To_Date with a Where Clause	204
	- Using Trunc with a Where Clause	207
	- Using Trunc with a Number	208
	- Using Trunc with a Date	209
	- Sub-Queries with a Where Clause	210
	- Exists with a Where Clause	212
	- Correlated Sub-Queries	214
	- Table Aliases	215
	- Advanced IN Sub-Queries	216
Eleven	Ordering Data in the SQL Worksheet	218
	- Introduction	219
	- Advanced Techniques	220
	- Using Decode in Order By	222
	- <i>Exercise Five</i>	224
Twelve	Aggregating Values in SQL Worksheet	229
	- Introduction	230
	- Using Group By	232
	- Using Where with Group By	234
	- Using Having with Group By	236
	- Using Rollup to Total Grouping	238
	- <i>Exercise Six</i>	243

Using SQL with SQL Developer

4.0.3 Part I

Section	Title	Page
Thirteen	Joining Tables in an SQL Worksheet	246
	– Introduction	247
	– Linking Tables in an SQL Statement	249
	– Linking Tables using ANSI SQL/86	252
	– Linking Tables in an SQL Statement	253
	– Cartesian Products in an SQL Statement	254
	– Problems with Joining Tables in SQL	256
	– Linking Tables using ANSI SQL/99	259
	– Natural Join using ANSI SQL/99	260
	– Cross Join using ANSI SQL/99	262
	– Join using ANSI SQL/99	263
	– Join on using ANSI SQL/99	264
	– Outer Joins using ANSI SQL/99	265
	– Left Outer Join using ANSI SQL/99	266
	– Right Outer Join using ANSI SQL/99	267
	– Full Outer Join using ANSI SQL/99	268
	– Multiple Joins using ANSI SQL/99	269
	– <i>Exercise Seven</i>	270
	Fourteen	Query Builder in the SQL Worksheet
– Introduction		274
– Invoking Query Builder		275
– Query Builder Topography		277
– Selecting Tables		281
– Checking Links		282
Fifteen	Using Views	283
	– Database Views	284
	– Materialized Views	285
Sixteen	Merging Tables in an SQL Statement	286
	– Merging Tables in SQL	287
	– Using Union to Merge Tables in SQL	288
	– Using Union All to Merge Tables in SQL	289
	– Using Intersect to Merge Tables in SQL	290
	– Using Minus to Merge Tables in SQL	291
	– Knowledge Check	292
	– Using the Merge Syntax in SQL	297
Seventeen	Regular Expressions in Oracle SQL	299
	– Introduction	300
	– Using REGEXP_LIKE in Where Clauses	303
	– Case Sensitivity	305
	– Line Anchors	307
	– Using the Dot (Any Character)	309
	– Counting Characters {Intervals}	312
	– Character Lists	316
	– Excluding Character Lists	320
	– Alternatives to Character Lists	321
	– Class Shortcuts	324
	– Or Patterns (Alternatives)	325
	– Or Patterns with Character Lists	326
– Using the Question Mark (Optional)	327	

Using SQL with SQL Developer

4.0.3 Part I

Section	Title	Page
	- Using the Plus sign (Mandatory)	330
	- Using the Star sign (Optional)	332
	- Using the Question Mark (Optional)	327
	- Backreferencing	333
	- POSIX	335
	- Using POSIX in Oracle – [:upper] example	337
	- Using POSIX in Oracle – [:digit] example	337
	- Using POSIX in Oracle – Character equivalents	339
	- Using Regexp_count	340
	- Using Regexp_replace	344
	- Using Regexp_instr	346
	- Using Regexp_substr	348
	- Using Regular Expressions in Oracle	350
Eighteen	Exporting Data in SQL Developer	351
	- Introduction	352
	- File Types	354
	- Exporting to a CSV	355
	- Exporting to a Delimited	357
	- Exporting to a Excel	358
	- Exporting to a Excel.xml	360
	- Exporting to Fixed	362
	- Exporting to HTML	364
	- Exporting to Insert	367
	- Exporting to Loader	369
	- Exporting to Loader (ldr)	370
	- Exporting to Loader (ctl)	371
	- Exporting to PDF	372
	- Exporting to Text	374
	- Exporting to XML	376
	- <i>Exercise Eight</i>	378

Appendices

Appendix S1 – SQL Functions

Appendix S2 – SQL Number Formats

Appendix S3 – SQL Date Formats

Delegate Questionnaire