

APPENDICES

- Appendix A** Microsoft Certification Application Specialist
- Appendix B** Leszynski Naming Conventions
- Appendix C** Best Practices for Designing a Database

APPENDIX A

Microsoft Certification Application Specialist

Lesson	Code	Activity
01	AC07 6.1.2	Back up databases
01	AC07 6.2.2	Configure database options
01	AC07 6.1.3	Compact and repair databases
01	AC07 3.2	Navigate among records
01	AC07 5.5	Save database objects as other file types
01	AC07 5.6	Print database objects
02	AC07 3.1	Enter, edit, and delete records
02	AC07 3.2	Navigate among records
02	AC07 3.4	Attach documents to and detach from records
02	AC07 5.5	Save database objects as other file types
02	AC07 5.6	Print database objects
03	AC07 5.1.1	Sort data within tables
03	AC07 5.2.1	Filter data within tables
03	AC07 5.1.2	Sort data within queries
03	AC07 5.2.2	Filter data within queries
03	AC07 5.1.3	Sort data within reports
03	AC07 5.2.3	Filter data within reports
03	AC07 5.1.4	Sort data within forms
03	AC07 5.2.4	Filter data within forms
03	AC07 2.3.5	Summarize table data adding a Total row
03	AC07 5.2.5	Remove filters
03	AC07 6.2.5	Print database information using the Database Documenter
03	AC07 3.3	Find and replace data
03	AC07 5.5	Save database objects as other file types
04	AC07 1.1.1	Define table fields
04	AC07 1.3.1	Define and modify primary keys
04	AC07 2.1.1	Create databases using templates
04	AC07 2.2.1	Create custom tables in Design View
04	AC07 2.3.1	Modify table properties
04	AC07 2.4.1	Create commonly used fields
04	AC07 3.5.1	Import data from a specific source

Lesson	Code	Activity
04	AC07 5.4.1	Export data from tables
04	AC07 1.1.2	Define appropriate table field data types for fields in each table
04	AC07 2.1.2	Create blank databases
04	AC07 2.2.2	Create tables by copying the structure of other tables
04	AC07 2.4.2	Modify field properties
04	AC07 5.4.2	Export data from queries
04	AC07 1.1.3	Define tables in databases
04	AC07 2.2.3	Create tables from templates
04	AC07 2.3.3	Rename tables
04	AC07 6.2.3	Set database properties
04	AC07 2.3.4	Delete tables
04	AC07 2.4.4	Create and modify attachment fields
05	AC07 1.2.1	Create relationships
05	AC07 1.2.2	Modify relationships
05	AC07 2.3.2	Evaluate table design using the Table Analyzer
05	AC07 1.2.3	Print table relationships
05	AC07 2.4.3	Create and modify multivalued fields
05	AC07 6.2.4	Identify object dependencies
06	AC07 4.1.1	Create queries based on single tables
06	AC07 4.2.1	Add tables to and remove tables from queries
06	AC07 4.1.2	Create queries based on more than one table
06	AC07 4.2.2	Add criteria to queries
06	AC07 4.1.4	Create crosstab queries
06	AC07 4.2.4	Create calculated fields in queries
06	AC07 4.2.5	Add aliases to query fields
06	AC07 4.2.6	Create sum, average, min, max, and count queries
07	AC07 2.7.1	Add controls
07	AC07 2.5.2	Create datasheet forms
07	AC07 2.7.2	Bind controls to fields
07	AC07 2.5.3	Create multiple item forms
07	AC07 2.7.3	Define the tab order of controls
07	AC07 2.5.4	Create split forms
07	AC07 2.7.4	Format controls

Lesson	Code	Activity
07	AC07 2.7.5	Arrange controls
07	AC07 5.5	Save database objects as other file types
07	AC07 5.6	Print database objects
07	AC07 2.5.7	Create forms using Layout View
07	AC07 2.7.7	Apply AutoFormats to forms and reports
07	AC07 2.5.8	Create simple forms
08	AC07 2.6.1	Create reports as a simple report
08	AC07 2.7.1	Add controls
08	AC07 2.6.2	Create reports using the Report Wizard
08	AC07 2.6.4	Define group headers
08	AC07 2.7.4	Format controls
08	AC07 2.6.5	Create aggregate fields
08	AC07 2.7.5	Arrange controls
08	AC07 2.6.6	Set the print layout
08	AC07 2.7.6	Apply and change conditional formatting on controls
08	AC07 2.6.7	Create labels using the Label Wizard
08	AC07 2.7.7	Apply AutoFormats to forms and reports
09	AC07 1.2.1	Create relationships
09	AC07 2.3.1	Modify table properties
09	AC07 1.2.2	Modify relationships
09	AC07 1.3.2	Define and modify multi-field primary keys
09	AC07 3.5.2	Link to external data sources
09	AC07 4.2.3	Create joins
09	AC07 6.2.6	Reset or refresh table links using the Linked Table Manager
09	AC07 3.1	Enter, edit, and delete records
10	AC07 4.1.1	Create queries based on single tables
10	AC07 4.2.1	Add tables to and remove tables from queries
10	AC07 4.1.2	Create queries based on more than one table
10	AC07 4.2.2	Add criteria to queries
10	AC07 4.1.3	Create action queries
10	AC07 4.2.4	Create calculated fields in queries
10	AC07 4.1.5	Create subqueries
10	AC07 4.1.6	Save filters as queries

Lesson	Code	Activity
10	AC07 4.2.6	Create sum, average, min, max, and count queries
11	AC07 2.5.1	Create forms by using Design View
11	AC07 2.7.1	Add controls
11	AC07 2.7.4	Format controls
11	AC07 2.5.5	Create subforms
11	AC07 2.7.5	Arrange controls
11	AC07 2.5.6	Create PivotTable forms
12	AC07 2.6.1	Create reports as a simple report
12	AC07 2.7.1	Add controls
12	AC07 2.6.2	Create reports using the Report Wizard
12	AC07 2.7.2	Bind controls to fields
12	AC07 2.6.3	Create reports using Design View
12	AC07 2.7.4	Format controls
12	AC07 2.5.5	Create subforms
12	AC07 2.6.6	Set the print layout
12	AC07 2.7.7	Apply AutoFormats to forms and reports
13	AC07 3.5.1	Import data from a specific source
13	AC07 5.4.1	Export data from tables
13	AC07 6.1.1	Open databases
13	AC07 6.2.1	Encrypt databases using passwords
13	AC07 5.4.2	Export data from queries
13	AC07 6.2.2	Configure database options
13	AC07 3.5.3	Save and run import specifications
13	AC07 5.4.3	Save and run export specifications
13	AC07 6.2.3	Set database properties
13	AC07 6.1.4	Save databases as a previous version
13	AC07 1.4	Split databases
14	AC07 2.7.1	Add controls
14	AC07 5.3.1	Create charts
14	AC07 5.3.2	Format charts
14	AC07 5.3.3	Change chart types
14	AC07 2.7.4	Format controls
14	AC07 2.7.5	Arrange controls
15	NONE	

APPENDIX B

Leszynski Naming Conventions

TABLE B-1 Prefixes for Major Objects – Leszynski Naming Conventions

Prefix	Object Type	Example
tbl	Table	tblEmployees
qry	Query	qrySuppliers
frm	Form	frmPayroll
rpt	Report	rptInventoryValue
mcr	Macro	mcrPreviewReport
bas	Module	basMyProgram

TABLE B-2 Prefixes for Control Objects – Leszynski Naming Conventions

Prefix	Object Type	Example
bof	Bound Object Frame	bofPhotos
cbo	Combo box	cboPaymentMethod
chk	Check box	chkCollate
cmd	Command button	cmdPrint
img	Image	imgEmployee
lbl	Label	lblEmployeeID
lin	Lines	linTitle
lst	List box	lstDepartments
opb	Option button	opbOrientation
opg	Option group	opgOrientation
pgb	Page Break	pgbNewPage
rct	Rectangles	rctBox
sbf	Sub Forms	sbfLineItems
sbr	Sub Reports	sbrSales
tgb	Toggle	tgbCollated
txt	Text box	txtEmployeeID
uof	Unbound Object Frame	uofLogo

TABLE B-3 Variable Names – Microsoft Standards

Prefix	Object Type	Example
bln	Boolean	blnContinue
cur	Currency	curSalary
dat	Date	datHire
dbl	Double	dblCompanySales
err	Error	errReport
int	Integer	intItemNumber
ing	Long	ingPopulation
rst	Recordset	rstEmployees
sng	Single	sngRoomSize
str	String	strName

TABLE B-4 Custom Input Masks

Symbol	Description
0	Digit (0 to 9, entry required)
9	Digit or space (entry optional)
#	Digit or space (entry optional; spaces are displayed as blanks while in Edit mode, but blanks are removed when data is saved)
L	Letter (A to Z, entry required)
?	Letter (A to Z, entry optional)
A	Letter or digit (A to Z, entry required)
a	Letter or digit (A to Z, entry optional)
&	Any character or a space (entry required)
C	Any character or a space (entry optional)
<	Causes all characters to be converted to lowercase
>	Causes all characters to be converted to uppercase
!	Causes the input mask to display from right to left, rather than from left to right
\	Causes the character that follows to be displayed as the literal character
"abc"	Displays exactly what is between the quotation marks
.,; - /	Placeholders (decimal, thousand, date and time separators)
Password	Any character typed in the control is stored as the character but is displayed as an asterisk (*)

TABLE B-5 Custom Formats – Numbers and Currency

Symbol	Description
.(period)	Decimal separator
,(comma)	Thousand separator
"(double quotation)	Surrounds any text that you want users to see
0	Digit placeholder. Display a digit or 0
#	Digit placeholder. Display a digit or nothing
\$	Display the literal character "\$"
!	Forces left alignment
%	Percentage. The value is multiplied by 100 and a percent sign is appended
E- or e+	Scientific notation with a minus sign next to negative exponents and nothing next to positive exponents.
E- or e+	Scientific notation with a minus sign next to negative exponents and a plus sign next to positive exponents.

TABLE B-6 Custom Formats – Date and Time

Symbol	Description
:	Time separator
/	Date separator
c	Same as the General Date predefined format
d	Day of the month in one or two digits (1 to 31)
dd	Day of the month in two digits (01 to 31)
ddd	First three letters of the weekday (Sun to Sat)
dddd	Full name of the weekday (Sunday to Saturday)
dddddd	Same as the Short Date predefined format
ddddddd	Same as the Long Date predefined format
w	Day of the week (1 to 7)
ww	Week of the year (1 to 53)
m	Month of the year in one or two digits (1 to 12)
mm	Month of the year in two digits (01 to 12)
mmm	First three letters of the month (Jan to Dec)
mmmm	Full name of the month (January to December)
q	Date displayed as quarter of the year (1 to 4)
y	Number of the day of the year (1 to 366)

continued

Symbol	Description
yy	Last two digits of the year (01 to 99)
yyyy	Full year (0100 to 9999)
h	Hour in one or two digits (0 to 23)
hh	Hours in two digits (00 to 23)
n	Minute in one or two digits (0 to 59)
nn	Minute in two digits (00 to 59)
s	Second in one or two digits (0 to 59)
ss	Second in two digits (00 to 59)
tttt	Same as the Long Time predefined format
AM/PM	Twelve-hour clock with the uppercase letters "AM" or "PM"
am/pm	Twelve-hour clock with the lowercase letters "am" or "pm"
A/P	Twelve-hour clock with the uppercase letters "A" or "P"
a/p	Twelve-hour clock with the lowercase letters "a" or "p"
[]	Stops resetting of seconds, minutes, hours, or days

TABLE B-7 Custom Formats – Text and Memo

Symbol	Description
@	Text character (either a character or a space) is required
&	Text character is not required
<	Force all characters to lowercase
>	Force all characters to uppercase

TABLE B-8 Number Field Size Settings

Setting	Stores Number From	Decimal Precision	Storage Size
Byte	0 to 255	(None)	1 byte
Integer	-32,768 to +32,767	(None)	2 bytes
Long Integer	-2,147,483,648 to +2,147,483,647	(None)	4 bytes
Single	-3.40×10^{38} to $+3.40 \times 10^{38}$	7	4 bytes
Double	-1.79×10^{308} to $+1.79 \times 10^{308}$	15	8 bytes
Decimal	-10^{28} to $+10^{28}$	28	12 bytes

TABLE B-9 Access 2007 Database Specifications

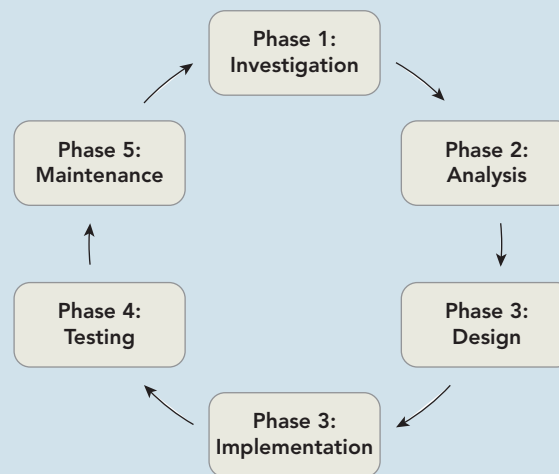
Attribute	Maximum
Access database (.accdb) file size	2 gigabytes
Number of objects in a database	32,768
Number of modules (including forms and reports modules)	1,000
Number of characters in an object name	64
Number of concurrent users	255

APPENDIX C

Best Practices for Designing a Database

Whenever you design a database, you should structure your activities. Most database designers follow the Systems Development Life Cycle (SDLC) method. Depending on the version of the SDLC used, a developer will complete five to seven phases beginning with an analysis phase and ending with a maintenance phase. At the conclusion of each phase, the developer will document findings, suggest possible solutions, estimate costs, meet with the client, and get written approval to continue to the next phase.

Regardless of the number of phases taken, documentation is crucial. In highly formalized business settings, the documentation follows prescribed formats that include authorization to continue to the next phase. For less formal settings, the documentation may be simplified.



Phase 1: Investigation

Step 1: Meet with key personnel who use the system including data entry operators to management end users. Identify overall goals of project.

Step 2: If an automated system exists, review the internal and external documentation including user manuals, table structures, relationships, forms, reports and queries.

Step 3: If an automated system does not exist, review the procedures for the manual process.

Step 4: Document all findings. Estimate the time and cost it will take to develop a new system. Include costs for hardware and software, if necessary.

Step 5: Obtain authorization to continue to the analysis phase.

Phase 2: Analysis

Step 1: Interview system users to identify deficiencies in current system. Most often concerns will be noted in data entry procedures or report layouts.

Step 2: Interview key personnel to refine overall goals of project. Determine operational and fiscal limitations.

Step 3: Based upon interviews create report and input screen mockups of input screens and reports for the new system.

Step 4: Document all findings.

Step 5: Meet with decision maker(s) to review findings and mockups.

Step 6: Redesign reports and input screen mockups if necessary.

Step 7: Estimate the time and cost it will take to develop a new system.

Step 8: Obtain authorization to continue to the design phase.

Phase 3: Design

Step 1: Base upon mockups, create table structures.

Step 2: Create relationships and queries as necessary.

Step 3: Create operational and exception reports.

Step 4: Create input forms.

Step 5: Document database structure. If required, create user manual(s).

Step 6: Enter test data and verify that the new system is working properly.

Step 6: Meet with decision maker(s) to review prototype system.

Step 7: Obtain authorization to continue to the implementation phase.

Phase 4: Implementation

Step 1: Install hardware and software.

Step 2: Train end-user on use of new system.

Step 3: Document any changes that users may request.

Step 4: Meet with decision maker(s) to review requested changes.

Step 5: Obtain authorization to make changes and continue to the testing phase.

Phase 5: Testing

Step 1: Complete a full business cycle including, data input and report generation.

Step 2: Verify all input data are accurate. Verify that all information displayed on reports and forms are accurate.

Step 3: Interview system users and key personnel to identify inaccuracies.

Step 4: Document any changes that users may request.

Step 5: Meet with decision maker(s) to review requested changes.

Step 6: Obtain authorization to make changes and continue to the maintenance phase.

Phase 6: Maintenance

Step 1: Periodically interview system users and key personnel to identify desired changes or improvements to system.

Step 2: Estimate the time and cost it will take to develop a new system.

Step 3: Meet with decision maker(s) to review requested changes.

Step 4: Obtain authorization to make changes.