

Chapter 7: Introduction to Structured Query Language (SQL)

MULTIPLE CHOICE

2. The SQL character data format(s) is(are) _____.

a.	CHAR and VARCHAR	c.	Alphanumeric
b.	VARCHAR only	d.	CHAR only

ANS: A PTS: 1 REF: 234

3. The SQL command that lets you insert rows into a table is _____.

a.	INSERT	c.	COMMIT
b.	SELECT	d.	UPDATE

ANS: A PTS: 1 REF: 243

4. The SQL command that lets you permanently save data changes is _____.

a.	INSERT	c.	COMMIT
b.	SELECT	d.	UPDATE

ANS: C PTS: 1 REF: 244

5. The SQL command that lets you select attributes from rows in one or more tables is _____.

a.	INSERT	c.	COMMIT
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b.	SELECT	d.	UPDATE
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ANS: B PTS: 1 REF: 244

6. To list all the contents of the PRODUCT table, you would use ____.

a.	LIST * FROM PRODUCT;	c.	DISPLAY * FROM PRODUCT;
b.	SELECT * FROM PRODUCT;	d.	SELECT ALL FROM PRODUCT;

ANS: B PTS: 1 REF: 244-245

7. In Oracle, the ____ command is used to change the display for a column, for example, to place a \$ in front of a numeric value.

a.	DISPLAY	c.	CHAR
b.	FORMAT	d.	CONVERT

ANS: B PTS: 1 REF: 245

8. The SQL command that modifies an attribute's values in one or more table's rows is ____.

a.	INSERT	c.	COMMIT
b.	SELECT	d.	UPDATE

ANS: D PTS: 1 REF: 246

9. UPDATE tablename

[WHERE conditionlist];

The ____ command replaces the ***** in the syntax of the UPDATE command, shown above.

a.	SET columnname = expression	c.	expression = columnname
b.	columnname = expression	d.	LET columnname = expression

ANS: A PTS: 1 REF: 246

10. An example of a command you would use when making changes to a PRODUCT table is ____.

a.	CHANGE PRODUCT SET P_INDATE = '18- JAN-2004' WHERE P_CODE = '13-Q2/P2';
b.	ROLLBACK PRODUCT SET P_INDATE = '18- JAN-2004' WHERE P_CODE = '13-Q2/P2';
c.	EDIT PRODUCT SET P_INDATE = '18-

	JAN-2004' WHERE P_CODE = '13-Q2/P2';
d.	UPDATE PRODUCT SET P_INDATE = '18- JAN-2004' WHERE P_CODE = '13-Q2/P2';

ANS: D PTS: 1 REF: 246

11. The ____ command is used to restore the table's contents to their previous values.

a.	COMMIT; RESTORE;	c.	COMMIT; ROLLBACK ;
b.	COMMIT; BACKUP;	d.	ROLLBACK ;

ANS: D PTS: 1 REF: 246

12. Some RDBMSs, such as Oracle, automatically ____ data changes when issuing data definition commands.

a.	COMMIT	c.	UNSAVE
b.	ROLLBACK	d.	UPDATE

ANS: A PTS: 1 REF: 247

13. To delete a row from the PRODUCT table, use the _____ command.

a.	COMMIT	c.	ERASE
b.	DELETE	d.	KILL

ANS: B PTS: 1 REF: 247

14. When you issue the DELETE FROM tablename command without specifying a WHERE condition, _____.

a.	no rows will be deleted	c.	the last row will be deleted
b.	the first row will be deleted	d.	all rows will be deleted

ANS: D PTS: 1 REF: 247

15. Which of the following is used to select partial table contents?

a.	SELECT <column(s)> FROM <Table name> BY <Conditions>;
b.	LIST <column(s)> FROM <Table name> BY <Conditions>;
c.	SELECT <column(s)> FROM <Table name> WHERE <Conditions>;

d.	LIST<column(s)> FROM <Table name> WHERE <Conditions>;
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ANS: C PTS: 1 REF: 248

16. The ____ command would be used to delete the table row where the P_CODE is 'BRT-345'.

a.	DELETE FROM PRODUCT WHERE P_CODE = 'BRT-345';
b.	REMOVE FROM PRODUCT WHERE P_CODE = 'BRT-345';
c.	ERASE FROM PRODUCT WHERE P_CODE = 'BRT-345';
d.	ROLLBACK FROM PRODUCT WHERE P_CODE = 'BRT-345';

ANS: A PTS: 1 REF: 247

17. A(n) ____ is a query that is embedded (or nested) inside another query.

a.	alias	c.	subquery
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b.	operator	d.	view
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ANS: C PTS: 1 REF: 248

18. Which query will output the table contents when the value of V_CODE is equal to 21344?

a.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE <> 21344;
b.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE <= 21344;
c.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344;
d.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE => 21344;

ANS: C PTS: 1 REF: 249

19. Which query will output the table contents when the value of V_CODE is not equal to 21344?

a.	<pre>SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE <> 21344;</pre>
b.	<pre>SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE <= 21344;</pre>
c.	<pre>SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344;</pre>
d.	<pre>SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE => 21344;</pre>

ANS: A PTS: 1 REF: 250

20. Which query will output the table contents when the value of P_PRICE is less than or equal to 10?

a.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE P_PRICE <> 10;
b.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE P_PRICE ≤ 10;
c.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE P_PRICE => 10;
d.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE P_PRICE = 10;

ANS: B PTS: 1 REF: 250

21. Which query will output the table contents when the value of the character field P_CODE is alphabetically less than 1558-QW1?

a.	SELECT P_CODE, P_DESCRIPT, P_QOH, P_MIN, P_PRICE FROM PRODUCT WHERE P_CODE <'1558-QW1';
b.	SELECT P_CODE, P_DESCRIPT, P_QOH, P_MIN, P_PRICE FROM PRODUCT WHERE P_CODE = [1558-QW1]
c.	SELECT P_CODE, P_DESCRIPT, P_QOH, P_MIN, P_PRICE FROM PRODUCT WHERE P_CODE = (1558-QW1)
d.	SELECT P_CODE, P_DESCRIPT, P_QOH, P_MIN, P_PRICE FROM PRODUCT WHERE P_CODE = {1558-QW1}

ANS: A PTS: 1 REF: 250

22. Which query will list all the rows in which the inventory stock dates occur on or after January 20, 2010?

a.	SELECT P_DESCRIPT, P_QOH, P_MIN, P_PRICE,
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	P_INDATE FROM PRODUCT WHERE P_INDATE >= '20-JAN-2010'
b.	SELECT P_DESCRIPT, P_QOH, P_MIN, P_PRICE, P_INDATE FROM PRODUCT WHERE P_INDATE >= \$20-JAN-2010\$
c.	SELECT P_DESCRIPT, P_QOH, P_MIN, P_PRICE, P_INDATE FROM PRODUCT WHERE P_INDATE <= '20-JAN-2010'
d.	SELECT P_DESCRIPT, P_QOH, P_MIN, P_PRICE, P_INDATE FROM PRODUCT WHERE P_INDATE >= {20-JAN-2010}

ANS: A PTS: 1 REF: 251

23. Which query will use the given columns and column aliases from the PRODUCT table to determine the total value of inventory held on hand?

a.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH/P_PRICE FROM PRODUCT;
b.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH=P_PRICE FROM PRODUCT;
c.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH*P_PRICE FROM PRODUCT;
d.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH-P_PRICE FROM PRODUCT;

ANS: C PTS: 1 REF: 251

24. A(n) _____ is an alternate name given to a column or table in any SQL statement.

a.	alias	c.	stored function
b.	data type	d.	trigger

ANS: A PTS: 1 REF: 252

25. Which query will use the given columns and column aliases from the PRODUCT table to determine the total value of inventory held on hand and display the results in a column labeled TOTVALUE?

a.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH*P_PRICE AS TOTVALUE FROM PRODUCT;
b.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH=P_PRICE AS TOTVALUE FROM PRODUCT;
c.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH/P_PRICE AS TOTVALUE FROM PRODUCT;
d.	SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH-P_PRICE AS TOTVALUE FROM PRODUCT;

ANS: A PTS: 1 REF: 271

26. Which query uses the correct SQL syntax to list the table contents for either V_CODE = 21344 or V_CODE = 24288?

a.	SELECT P_DESCRIPT,
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	P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344 OR V_CODE <= 24288
b.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344 OR V_CODE => 24288
c.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344 OR V_CODE > 24288
d.	SELECT P_DESCRIPT, P_INDATE, P_PRICE, V_CODE FROM PRODUCT WHERE V_CODE = 21344 OR V_CODE = 24288

ANS: D PTS: 1 REF: 253

27. The special operator used to check whether an attribute value is within a range of values is ____.

a.	BETWEEN	c.	LIKE
b.	NULL	d.	IN

ANS: A PTS: 1 REF: 255

28. The ____ special operator is used to check whether an attribute value is null.

a.	BETWEEN	c.	LIKE
b.	IS NULL	d.	IN

ANS: B PTS: 1 REF: 255

29. The special operator used to check for similar character strings is ____.

a.	BETWEEN	c.	LIKE
b.	IS NULL	d.	IN

ANS: C PTS: 1 REF: 255

30. The special operator used to check whether a subquery returns any rows is ____.

a.	BETWEEN	c.	LIKE
b.	EXISTS	d.	IN

ANS: B PTS: 1 REF: 255

31. The ____ command is used with the ALTER TABLE command to modify the table by deleting a column.

a.	DROP	c.	DELETE
b.	REMOVE	d.	ERASE

ANS: A PTS: 1 REF: 259

32. A table can be deleted from the database by using the ____ command.

a.	DROP TABLE	c.	MODIFY TABLE
b.	DELETE TABLE	d.	ERASE TABLE

ANS: A PTS: 1 REF: 265

33. The query used to list the P_CODE, P_DESCRIPT, P_INDATE, and P_PRICE fields from the PRODUCT table in ascending order by P_PRICE is ____.

a.	<pre>SELECT P_CODE, P_DESCRIPT, P_INDATE, P_PRICE FROM PRODUCT SEQUENCE BY P_PRICE;</pre>
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b.	SELECT P_CODE, P_DESCRIPT, P_INDATE, P_PRICE FROM PRODUCT LIST BY P_PRICE;
c.	SELECT P_CODE, P_DESCRIPT, P_INDATE, P_PRICE FROM PRODUCT ORDER BY P_PRICE;
d.	SELECT P_CODE, P_DESCRIPT, P_INDATE, P_PRICE FROM PRODUCT ASCENDING BY P_PRICE;

ANS: C PTS: 1 REF: 265

34. The SQL query to output the contents of the EMPLOYEE table sorted by last name, first name, and initial is ____.

a.	SELECT EMP_LNAME, EMP_FNAME, EMP_INITIAL, EMP_AREACODE, EMP_PHONE FROM EMPLOYEE LIST BY EMP_LNAME, EMP_FNAME, EMP_INITIAL;
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b.	SELECT EMP_LNAME, EMP_FNAME, EMP_INITIAL, EMP_AREACODE, EMP_PHONE FROM EMPLOYEE ORDER BY EMP_LNAME, EMP_FNAME, EMP_INITIAL;
c.	SELECT EMP_LNAME, EMP_FNAME, EMP_INITIAL, EMP_AREACODE, EMP_PHONE FROM EMPLOYEE DISPLAY BY EMP_LNAME, EMP_FNAME, EMP_INITIAL;
d.	SELECT EMP_LNAME, EMP_FNAME, EMP_INITIAL, EMP_AREACODE, EMP_PHONE FROM EMPLOYEE SEQUENCE BY EMP_LNAME, EMP_FNAME, EMP_INITIAL;

ANS: B PTS: 1 REF: 266

35. Which query is used to list a unique value for V_CODE, where the list will produce only a list of those values that are different from one another?

a.	SELECT ONLY V_CODE FROM PRODUCT;
b.	SELECT UNIQUE V_CODE FROM PRODUCT;
c.	SELECT DIFFERENT V_CODE FROM PRODUCT;
d.	SELECT DISTINCT V_CODE FROM PRODUCT;

ANS: D PTS: 1 REF: 267

36. The SQL aggregate function that gives the number of rows containing non-null values for the given column is ____.

a.	COUNT	c.	MAX
b.	MIN	d.	SUM

ANS: A PTS: 1 REF: 268

37. The SQL aggregate function that gives the total of all values for a selected attribute in a given column is ____.

a.	COUNT	c.	MAX
b.	MIN	d.	SUM

ANS: D PTS: 1 REF: 271

38. The SQL aggregate function that gives the average for the specific column is ____.

a.	COUNT	c.	MAX
b.	AVG	d.	SUM

ANS: B PTS: 1 REF: 271

39. The query to join the P_DESCRIPT and P_PRICE fields from the PRODUCT table and the V_NAME, V_AREACODE, V_PHONE, and V_CONTACT fields from the VENDOR table where the values of V_CODE match is ____.

a.	<pre>SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE <> VENDOR.V_CODE;</pre>
b.	<pre>SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT,</pre>

	VENDOR WHERE PRODUCT.V_CODE = VENDOR.V_CODE;
c.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE <= VENDOR.V_CODE;
d.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE => VENDOR.V_CODE;

ANS: B PTS: 1 REF: 276

40. The query to join the P_DESCRIPT and P_PRICE fields from the PRODUCT table and the V_NAME, V_AREACODE, V_PHONE and V_CONTACT fields from the VENDOR table, where the values of V_CODE match and the output is ordered by the price is ____.

a.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE <> VENDOR.V_CODE; ORDER BY P_PRICE;
b.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE => VENDOR.V_CODE; ORDER BY P_PRICE;
c.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE <=

	VENDOR.V_CODE; ORDER BY P_PRICE;
d.	SELECT P_DESCRIPT, P_PRICE, V_NAME, V_CONTACT, V_AREACODE, V_PHONE FROM PRODUCT, VENDOR WHERE PRODUCT.V_CODE = VENDOR.V_CODE; ORDER BY P_PRICE;

ANS: D PTS: 1 REF: 276

COMPLETION

1. In the SQL environment, the word _____ covers both questions and actions.

ANS: query

PTS: 1 REF: 228

2. The basic SQL vocabulary has fewer than _____ words.

ANS:
100

one hundred
a hundred

PTS: 1 REF: 228

3. A(n) _____ is a group of database objects, such as tables and indexes, that are related to each other.

ANS: schema

PTS: 1 REF: 231

4. With the exception of the _____ process, most RDBMS vendors use SQL that deviates little from the ANSI standard SQL.

ANS: database creation

PTS: 1 REF: 231

5. U.S. state abbreviations are always two characters, so _____(2) is a logical choice for the data type representing a state column.

ANS: CHAR

PTS: 1 REF: 232

6. DATE() and SYSDATE are special functions that return today's date in MS Access and _____, respectively.

ANS: Oracle

PTS: 1 REF: 232

7. If your integer values are relatively small, use _____ instead of INT.

ANS: SMALLINT

PTS: 1 REF: 233

8. In a 1:M relationship, you must always create the table for the _____ side first.

ANS:

1

one

PTS: 1 REF: 236

9. _____ words are words used by SQL to perform specific functions.

ANS: Reserved

PTS: 1 REF: 237

10. Using the _____ command, SQL indexes can be created on the basis of any selected attribute.

ANS: CREATE INDEX

PTS: 1 REF: 241

11. A common practice is to create a(n) _____ on any field that is used as a search key, in comparison operations in a conditional expression, or when you want to list rows in a specific order.

ANS: index

PTS: 1 REF: 242

12. To delete an index, use the _____ command.

ANS: DROP INDEX

PTS: 1 REF: 242

13. In an INSERT command, you can indicate just the attributes that have required values by listing the _____ inside parentheses after the table name.

ANS: attribute names

PTS: 1 REF: 244

14. A(n) _____ character is a symbol that can be used as a general substitute for other characters or commands.

ANS: wildcard

PTS: 1 REF: 245

15. A(n) _____, also known as a nested query or an inner query, is a query that is embedded (or nested) inside another query.

ANS: subquery

PTS: 1 REF: 248

16. The _____ command, coupled with appropriate search conditions, is an incredibly powerful tool that enables you to transform data into information.

ANS: SELECT

PTS: 1 REF: 248

17. In SQL, all _____ expressions evaluate to true or false.

ANS: conditional

PTS: 1 REF: 254

18. A specialty field in mathematics, known as _____ algebra, is dedicated to the use of logical devices.

ANS: Boolean

PTS: 1 REF: 254

19. If you add a new column to a table that already has rows, the existing rows will default to a value of _____ for the new column.

ANS: null

PTS: 1 REF: 260

20. A table can be deleted from the database by using the _____ command.

ANS: DROP TABLE

PTS: 1 REF: 265

21. A(n) _____ order sequence is a multilevel ordered sequence that can be created easily by listing several attributes, separated by commas, after the ORDER BY clause.

ANS: cascading

PTS: 1 REF: 266

22. Rows can be grouped into smaller collections quickly and easily using the SQL _____ clause.

ANS: GROUP BY

PTS: 1 REF: 272

23. The _____ clause of the GROUP BY statement operates very much like the WHERE clause in the SELECT statement.

ANS: HAVING

PTS: 1 REF: 274

24. A(n) _____ is performed when data is retrieved from more than one table at a time.

ANS: join

PTS: 1 REF: 275

25. An alias is especially useful when a table must be joined to itself in a(n) _____ query.

ANS: recursive

PTS: 1 REF: 278

ESSAY

1. What is a schema? How many schemas can be used in one database?

ANS:

In the SQL environment, a schema is a logical group of database objects—such as tables and indexes—that are related to each other. Usually, the schema belongs to a single user or application. A single database can hold multiple schemas that belong to different users or applications. Schemas are useful in that they group tables by owner (or function) and enforce a first level of security by allowing each user to see only the tables that belong to that user.

PTS: 1 REF: 231

2. What command is used to save changes to the database? What is the syntax for this command?

ANS:

Any changes made to the table contents are not saved on disk until you close the database, close the program you are using, or use the COMMIT command. If the database is open and a power outage or some other interruption occurs before you issue the COMMIT command, your changes will be lost and only the original table contents will be retained. The syntax for the COMMIT command is:

COMMIT [WORK]

The COMMIT command permanently saves all changes—such as rows added, attributes modified, and rows deleted—made to any table in the database

PTS: 1 REF: 244

3. What is a subquery? When is it used? Does the RDBMS deal with subqueries any differently from normal queries?

ANS:

A subquery, also known as a nested query or an inner query, is a query that is embedded (or nested) inside another query. The inner query is always executed first by the RDBMS. Given the previous SQL statement, the INSERT portion represents the outer query, and the SELECT portion represents the subquery. You can nest queries (place queries inside queries) many levels deep; in every case, the output of the inner query is used as the input for the outer (higher-level) query.

PTS: 1 REF: 248

4. What are the wildcard characters that are used with the LIKE command? Provide one or more examples of each.

ANS:

% means any and all *following* or *preceding* characters are eligible. For example:

'J%' includes Johnson, Jones, Jernigan, July, and J-231Q.

'Jo%' includes Johnson and Jones.

'%n' includes Johnson and Jernigan.

_ means any *one* character may be substituted for the underscore. For example:

'_23-456-6789' includes 123-456-6789, 223-456-6789, and 323-456-6789.

'_23-_56-678_' includes 123-156-6781, 123-256-6782, and 823-956-6788.

'_o_es' includes Jones, Cones, Cokes, totes, and roles.

PTS: 1 REF: 256

5. How do you delete a table from the database? Provide an example.

ANS:

A table can be deleted from the database using the DROP TABLE command. For example, you can delete the PART table with the following command:

DROP TABLE PART;

You can drop a table only if it is not the “one” side of any relationship. If you try to drop a table otherwise, the RDBMS will generate an error message indicating that a foreign key integrity violation has occurred.

PTS: 1 REF: 265