CHAPTER 8: ADVANCED SQL

1. A relational join operation merges rows from two tables.
   a. True
   b. False

   ANSWER: True
   PTS: 1 DIF: Difficulty: Easy REF: p. 341
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Join Operators

2. An inequality condition is also known as a natural join and an equality condition is also called a theta join.
   a. True
   b. False

   ANSWER: False
   PTS: 1 DIF: Difficulty: Easy REF: p.341
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Join Operators

3. Subqueries cannot be used in combinations with joins.
   a. True
   b. False

   ANSWER: False
   PTS: 1 DIF: Difficulty: Easy REF: p.352
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Join Operators

4. The SELECT statement uses the attribute list to indicate what columns to project in the resulting set.
   a. True
   b. False

   ANSWER: True
   PTS: 1 DIF: Difficulty: Easy REF: p.356
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Join Operators

5. Numeric functions take one numeric parameter and return one value.
   a. True
   b. False

   ANSWER: True
   PTS: 1 DIF: Difficulty: Easy REF: p.366
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Functions

6. String manipulation functions are rarely used in programming.
   a. True
   b. False

   ANSWER: False
   PTS: 1 DIF: Difficulty: Easy REF: p.366
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: SQL Functions

7. UNION, INTERSECT, and MINUS work properly only if relations are intersect-compatible, which means that the names of the relation attributes and their data types must be different.
   a. True
   b. False

   ANSWER: False
   PTS: 1 DIF: Difficulty: Easy REF: p.371
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: Relational Set Operators

8. A view is a virtual table based on a SELECT query.
   a. True
   b. False

   ANSWER: True
   PTS: 1 DIF: Difficulty: Easy REF: p.377
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: Virtual Tables: Creating a View

9. A sequence is not associated with a table and can be dropped from a database with a DROP SEQUENCE command.
   a. True
   b. False

   ANSWER: True
   PTS: 1 DIF: Difficulty: Easy REF: p.386-387
   NAT: BUSPROG: Technology STATE: DISC: Information Technology
   KEY: Bloom's: Knowledge TOP: Sequences

10. SQL supports the conditional execution of procedures (IF-THEN-ELSE statements) that are typically supported by a programming language.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.387
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

11. To remedy the lack of procedural functionality in SQL, and to provide some standardization within the many vendor offerings, the SQL-99 standard defined the use of persistent stored modules.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.388
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

12. A persistent stored module is stored and executed on the database client machine.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.388
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

13. Every PL/SQL block must be given a name.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Moderate REF: p.390
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: Procedural SQL

14. In Oracle, you can use the SQL*Plus command SHOW ERRORS to help you diagnose errors found in PL/SQL blocks.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.390
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

15. PL/SQL blocks have a section used to declare variables.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.391
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

16. The most useful feature of PL/SQL blocks is that they let a designer create code that can be named, stored, and executed by the DBMS.

    a. True

    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.391
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

17. Automating business procedures and automatically maintaining data integrity and consistency are trivial in a modern business environment.

    a. True

    b. False

    ANSWER: False

    PTS: 1 DIF: Difficulty: Easy REF: p.392
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

18. A trigger is procedural SQL code that is automatically invoked by the RDBMS upon the occurrence of a given data manipulation event.

    a. True

    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.393
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

19. Triggers can only be used to update table values.

    a. True

    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.393
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

20. A statement-level trigger is assumed if a designer omits the FOR EACH ROW keywords.

    a. True

    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.394
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

21. A row-level trigger is assumed if we omit the FOR EACH ROW keywords and a statement-level trigger required the use of the FOR EACH ROW keyword.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.394
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

22. MySQL allows multiple triggering conditions per trigger.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.394
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

23. BEFORE means before the changes are made in memory but after the changes are permanently saved to disk.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p.398
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

24. Just like database triggers, stored procedures are stored in the database.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p.401
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

25. One of the major advantages of stored procedures is that they can be used to encapsulate and represent business transactions.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p. 401
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

26. Stored procedures must have at least one argument.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p. 402
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

27. Variables can be declared inside a stored procedure.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Moderate REF: p. 402
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: Procedural SQL

28. Cursors are held in a reserved memory area in the client computer.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p. 407
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

29. An implicit cursor is automatically created in procedural SQL when the SQL statement returns only one value.
    a. True
    b. False

    ANSWER: True
    PTS: 1 DIF: Difficulty: Easy REF: p. 407
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

30. An explicit cursor must return two or more rows.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p. 407
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

31. A stored function is another name for a stored procedure.
    a. True
    b. False

ANSWER: False
PTS: 1 DIF: Difficulty: Easy REF: p.409
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Procedural SQL

32. "Linked SQL" is a term used to refer to SQL statements that are contained within an application programming language such as COBOL, C++, ASP, Java, or ColdFusion.
    a. True
    b. False

    ANSWER: False
    PTS: 1 DIF: Difficulty: Easy REF: p. 410
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Embedded SQL

33. The following SQL statement uses a(n)_____.

```
SELECT P_CODE, P_DESCRIPT, P_PRICE, V_NAME
    FROM PRODUCT, VENDOR
        WHERE PRODUCT.V_CODE = VENDOR.V_CODE;
```

    a. set operator b. natural join
    c. "old-style" join d. procedural statement

    ANSWER: c
    PTS: 1 DIF: Difficulty: Moderate REF: p. 341
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: SQL Join Operators

34. When using a(n)_____join, only rows that meet the given criteria are returned.
    a. full b. inner
    c. outer d. set

    ANSWER: b
    PTS: 1 DIF: Difficulty: Easy REF: p. 341
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: SQL Join Operators

35. The statement SELECT * FROM T1, T2 produces a(n)_____join.
    a. cross b. natural
    c. equi- d. full

    ANSWER: a
    PTS: 1 DIF: Difficulty: Easy REF: p. 342
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: SQL Join Operators

36. How many rows would be returned from a cross join of tables A and B, if A contains 8 rows and B contains 18?

a. 8 b. 18

c. 26 d. 144

ANSWER: d
PTS: 1 DIF: Difficulty: Easy REF: p. 342
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

37. A(n)_____join will select only the rows with matching values in the common attribute(s).

a. natural b. cross

c. full d. outer

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p. 343
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

38. If a designer wishes to create an inner join, but the two tables do not have a commonly named attribute, he can use a(n) _____ clause.

a. OF b. USING

c. HAS d. JOIN ON

ANSWER: d
PTS: 1 DIF: Difficulty: Easy REF: p. 345
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

39. A(n)_____join returns not only the rows matching the join condition (that is, rows with matching values in the common columns) but also the rows with unmatched values.

a. outer b. inner

c. equi- d. cross

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p. 347
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

40. The syntax for a left outer join is_____.

a. SELECT column-list
FROM table1 OUTER JOIN table2 LEFT
WHERE join-condition

b. SELECT column-list
FROM table1 LEFT [OUTER] JOIN table2
ON join-condition

c. SELECT column-list
WHERE LEFT table1 = table 2

d. SELECT column-list
FROM table1 LEFT table2 [JOIN]
WHERE join-condition

ANSWER: b
PTS: 1 DIF: Difficulty: Moderate REF: p. 347
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: SQL Join Operators

41. In subquery terminology, the first query in the SQL statement is known as the_____query.
a. outer b. left
c. inner d. base

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p. 350
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

42. In the context of SELECT subquery types, a_____is returned when an UPDATE subquery is used.
a. NULL b. single value
c. list of values d. virtual table

ANSWER: b
PTS: 1 DIF: Difficulty: Easy REF: p. 351
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

43. Which of the following is a feature of a correlated subquery?
a. The inner subquery executes first.
b. The outer subquery initiates the process of execution in a subquery.
c. The inner subquery initiates the process of execution in a subquery.
d. The outer subquery executes independent of the inner subquery.

ANSWER: b
PTS: 1 DIF: Difficulty: Easy REF: p. 359
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

44. The_____function returns the current system date in MS Access.
a. TO_DATE() b. SYSDATE()
c. DATE() d. TODAY()

ANSWER: c
PTS: 1 DIF: Difficulty: Easy REF: p. 362
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

45. When using the Oracle TO_DATE function, the code_____represents a three-letter month name.
a. MON b. MM3
c. MONTH d. MM

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p. 363
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

46. In Oracle, the_____function converts a date to a character string.
a. CONVERT() b. TO_DATE
c. TO_CHAR() d. TO_STRING()

ANSWER: c
PTS: 1 DIF: Difficulty: Easy REF: p. 363
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

47. _____is a string function that returns the number of characters in a string value.
a. LENGTH b. SUBSTRING
c. CONCAT d. UCASE

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p. 368
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

48. When using the Oracle TO_NUMBER function to convert a character string into a number,_____ represents a digit.
a. 0 b. 9
c. $ d. #

ANSWER: b
PTS: 1 DIF: Difficulty: Easy REF: p. 369
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

49. The Oracle_____function compares an attribute or expression with a series of values and returns an associated value or a default value if no match is found.
a. NVL b. TO_CHAR
c. DECODE d. CONVERT

ANSWER: c
PTS: 1 DIF: Difficulty: Easy REF: p. 370
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

50. _____is a relational set operator.
a. MINUS b. PLUS
c. ALL d. EXISTS

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p.371
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

51. "Union-compatible" means that the_____.
a. names of the relation attributes can be different, but the data types must be alike
b. names of the relation attributes must be the same, but the data types can be different
c. names of the relation attributes must be the same and their data types must be alike
d. number of attributes must be the same, but the names and data types can be different

ANSWER: c
PTS: 1 DIF: Difficulty: Moderate REF: p.371
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Relational Set Operators

52. The_____data type is considered compatible with VARCHAR(35).
a. DATE b. INT
c. TINYINT d. CHAR(15)

ANSWER: d
PTS: 1 DIF: Difficulty: Easy REF: p.371
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

53. The_____statement combines rows from two queries and excludes duplicates.
a. UNION b. UNION ALL
c. INTERSECT d. MINUS

ANSWER: a
PTS: 1 DIF: Difficulty: Easy REF: p.372
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

54. Assume a designer is using the UNION operator to combine the results from two tables with identical structure, CUSTOMER and CUSTOMER_2. The CUSTOMER table contains 10 rows, while the CUSTOMER_2 table contains 7 rows. Customers Jenna and Howard are included in the CUSTOMER table as well as in the CUSTOMER_2 table. How many records are returned when using the UNION operator?
a. 7 b. 10
c. 15 d. 17

ANSWER: c
PTS: 1 DIF: Difficulty: Moderate REF: p.372
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Relational Set Operators

55. Assume you are using the UNION ALL operator to combine the results from two tables with identical structure, CUSTOMER and CUSTOMER_2. The CUSTOMER table contains 10 rows, while the CUSTOMER_2 table contains 7 rows. Customers Dunne and Olowski are included in the CUSTOMER table as well as in the CUSTOMER_2 table. How many records are returned when using the UNION ALL operator?

    a. 7 b. 10

    c. 15 d. 17

    ANSWER: d
    PTS: 1 DIF: Difficulty: Moderate REF: p.373
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: Relational Set Operators

56. Assume you are using the INTERSECT operator to combine the results from two tables with identical structure, CUSTOMER and CUSTOMER_2. The CUSTOMER table contains 10 rows, while the CUSTOMER_2 table contains 7 rows. Customers Dunne and Olowski are included in the CUSTOMER table as well as in the CUSTOMER_2 table. How many records are returned when using the INTERSECT operator?

    a. 0 b. 2

    c. 7 d. 10

    ANSWER: b
    PTS: 1 DIF: Difficulty: Moderate REF: p.374
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: Relational Set Operators

57. The_____statement in SQL combines rows from two queries and returns only the rows that appear in the first set but not in the second.

    a. UNION b. UNION ALL

    c. INTERSECT d. MINUS

    ANSWER: d
    PTS: 1 DIF: Difficulty: Easy REF: p.375
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Relational Set Operators

58. Assume you are using the MINUS operator to combine the results from two tables with identical structure, CUSTOMER and CUSTOMER_2. The CUSTOMER table contains 10 rows, while the CUSTOMER_2 table contains 7 rows. Customers Dunne and Olowski are included in the CUSTOMER table as well as in the CUSTOMER_2 table. How many records are returned when using the MINUS operator?

    a. 0 b. 2

    c. 8 d. 10

    ANSWER: c
    PTS: 1 DIF: Difficulty: Moderate REF: p.375-376
    NAT: BUSPROG: Analytic STATE: DISC: Information Technology
    KEY: Bloom's: Comprehension TOP: Relational Set Operators

59. The_____operator could be used in place of INTERSECT if the DBMS does not support it.
    a. IN b. OF
    c. AND d. UNION

    ANSWER: a
    PTS: 1 DIF: Difficulty: Easy REF: p.377
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Relational Set Operators

60. The_____operator could be used in place of MINUS if the DBMS does not support it.
    a. IN b. NOT IN
    c. AND d. UNION

    ANSWER: b
    PTS: 1 DIF: Difficulty: Easy REF: p.377
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Relational Set Operators

61. The Oracle equivalent to an MS Access AutoNumber is a(n)_____.
    a. auto-number b. sequence
    c. TO_NUMBER function d. trigger

    ANSWER: b
    PTS: 1 DIF: Difficulty: Easy REF: p.382
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Sequences

62. Which of the following is a feature of oracle sequences?
    a. Oracle sequences are tied to columns and tables.
    b. Oracle sequences generate a character string that can be assigned to tables.
    c. An oracle sequence uses the identity column property to automatically number rows.
    d. An oracle sequence can be created and deleted anytime.

    ANSWER: d
    PTS: 1 DIF: Difficulty: Easy REF: p.383
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Sequences

63. The_____pseudo-column is used to select the next value from a sequence.
    a. CURRVAL b. NEXTVAL
    c. NEXT d. GET_NEXT

    ANSWER: b
    PTS: 1 DIF: Difficulty: Easy REF: p.384
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Sequences

64. In Oracle,_____make(s) it possible to merge SQL and traditional programming constructs, such as variables, conditional processing (IF-THEN-ELSE), basic loops (FOR and WHILE loops,) and error trapping.
    a. cursor-style processing b. stored procedures
    c. embedded SQL d. Procedural Language SQL

    ANSWER: d
    PTS: 1 DIF: Difficulty: Easy REF: p.388
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

65. The Oracle string concatenation function is_____.
    a. CONCAT b. +
    c. || d. &&

    ANSWER: c
    PTS: 1 DIF: Difficulty: Easy REF: p.391
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

66. The PL/SQL block starts with the_____section.
    a. IS b. OPEN
    c. DECLARE d. BEGIN

    ANSWER: c
    PTS: 1 DIF: Difficulty: Easy REF: p.391
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

67. Oracle recommends_____for creating audit logs.
    a. triggers b. stored procedures
    c. stored functions d. tables

    ANSWER: a
    PTS: 1 DIF: Difficulty: Easy REF: p.393
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

68. _____is a cursor attribute that returns TRUE if the last FETCH returned a row, and FALSE if not.
    a. %ROWCOUNT b. %NOTFOUND
    c. %FOUND d. %ISOPEN

    ANSWER: c
    PTS: 1 DIF: Difficulty: Easy REF: p. 408
    NAT: BUSPROG: Technology STATE: DISC: Information Technology
    KEY: Bloom's: Knowledge TOP: Procedural SQL

69. The _____ determines the common attribute or attributes by looking for identically named attributes and compatible data types.

ANSWER: natural join
PTS: 1 DIF: Difficulty: Easy REF: p. 343
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

70. An alternate syntax for a join is: SELECT column-list FROM table1 JOIN table2_____(common-column).

ANSWER: USING
PTS: 1 DIF: Difficulty: Easy REF: p. 344
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Join Operators

71. When using a subquery, the output of a(n)_____query is used as the input for the outer query.

ANSWER: inner
PTS: 1 DIF: Difficulty: Easy REF: p. 350
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

72. The_____clause is used to restrict the output of a GROUP BY query by applying a conditional criteria to the grouped rows.

ANSWER: HAVING
PTS: 1 DIF: Difficulty: Easy REF: p. 353
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

73. The IN subquery uses a(n)_____operator.

ANSWER: equality
PTS: 1 DIF: Difficulty: Easy REF: p. 354
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

74. The use of the_____operator allows you to compare a single value with a list of values returned by the first subquery (sqA) using a comparison operator other than EQUALS.

ANSWER: ALL
PTS: 1 DIF: Difficulty: Easy REF: p. 355
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

75. The _____statement uses the attribute list to indicate what columns to project in the resulting set.

ANSWER: SELECT
PTS: 1 DIF: Difficulty: Easy REF: p. 356
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

76. A(n)_____subquery is a subquery that executes once for each row in the outer query.

ANSWER: correlated
PTS: 1 DIF: Difficulty: Easy REF: p. 358
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Subqueries and Correlated Queries

77. Oracle uses the_____function to extract the various parts of a date.

ANSWER: TO_CHAR
PTS: 1 DIF: Difficulty: Easy REF: p. 363
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

78. _____functions extract a value of a given data type and convert it to the equivalent value in another data type.

ANSWER: Conversion
PTS: 1 DIF: Difficulty: Easy REF: p. 368
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

79. The syntax of the DECODE function starts with_____.

ANSWER: DECODE(e, x, y, d)
PTS: 1 DIF: Difficulty: Easy REF: p. 370
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: SQL Functions

80. The_____statement combines the output of two SELECT queries.

ANSWER: UNION
PTS: 1 DIF: Difficulty: Easy REF: p.372
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

81. A(n)_____query can be used to produce a relation that retains the duplicate rows.

ANSWER: UNION ALL
PTS: 1 DIF: Difficulty: Easy REF: p.373
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

82. The_____statement can be used to combine rows from two queries, returning only the rows that appear in both sets.

ANSWER: INTERSECT
PTS: 1 DIF: Difficulty: Easy REF: p.373
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

83. The syntax of the MINUS statement in Oracle is_____.

ANSWER: query MINUS query

PTS: 1 DIF: Difficulty: Easy REF: p.375
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

84. If the DBMS does not support the INTERSECT statement, one can use a(n)_____subquery to achieve the same result.

ANSWER: IN
PTS: 1 DIF: Difficulty: Easy REF: p.377
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

85. A(n)_____view is a view that can be used to update attributes in the base table(s) that are used in the view.

ANSWER: updatable
PTS: 1 DIF: Difficulty: Easy REF: p.380
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

86. A(n)_____routine pools multiple transactions into a single batch to update a master table field in a single operation.

ANSWER: batch update
PTS: 1 DIF: Difficulty: Easy REF: p.379
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Relational Set Operators

87. In MS Access, a designer can use the_____data type to define a column in his table that will be automatically populated with unique numeric values.

ANSWER: AutoNumber
PTS: 1 DIF: Difficulty: Easy REF: p.382
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Sequences

88. In an Oracle sequence, the_____pseudo-column retrieves the current value of a sequence.

ANSWER: CURRVAL
PTS: 1 DIF: Difficulty: Easy REF: p.384
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Sequences

89. Using Oracle_____, a designer can write a PL/SQL code block by enclosing the commands inside BEGIN and END clauses.

ANSWER: SQL*Plus
PTS: 1 DIF: Difficulty: Easy REF: p.389
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Procedural SQL

90. A row-level trigger requires use of the_____keywords and is executed once for each row affected by the triggering statement.

ANSWER: FOR EACH ROW
PTS: 1 DIF: Difficulty: Easy REF: p.394
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Procedural SQL

91. _____is the term used to describe an environment in which the SQL statement is not known in advance and is generated at run time.

ANSWER: Dynamic SQL
PTS: 1 DIF: Difficulty: Easy REF: p. 414
NAT: BUSPROG: Technology STATE: DISC: Information Technology
KEY: Bloom's: Knowledge TOP: Embedded SQL

92. Explain the different basic types of join operations. What are they and how do they work?

ANSWER: Join operations can be classified as inner joins and outer joins. The inner join is the traditional join in which only rows that meet a given criterion are selected. The join criterion can be an equality condition (also called a natural join or an equijoin) or an inequality condition (also called a theta join.) An outer join returns not only the matching rows but the rows with unmatched attribute values for one table or both tables to be joined. The SQL standard also introduces a special type of join, called a cross join, that returns the same result as the Cartesian product of two sets or tables.

PTS: 1 DIF: Difficulty: Moderate REF: p. 341
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: SQL Join Operators

93. What are the four different types of results that can be returned from a subquery?

ANSWER: A subquery can return one or more values.

One single value (one column and one row):
This subquery is used anywhere a single value is expected, as in the right side of a comparison expression. An example is the preceding UPDATE subquery, in which an average price is assigned to the product's price. When a value is assigned to an attribute, a single value is assigned and not a list of them. Therefore, the subquery must return only one value (one column, one row). If the query returns multiple values, the DBMS generates an error.

A list of values (one column and multiple rows):
This type of subquery is used anywhere a list of values is expected, such as when using the IN clause—for example, when comparing the vendor code to a list of vendors. Again, in this case, there is only one column of data with multiple value instances. This type of subquery is used frequently in combination with the IN operator in a WHERE conditional expression.

A virtual table (multicolumn, multirow set of values):
This type of subquery can be used anywhere a table is expected, such as when using the FROM clause.

The fourth result that a subquery can return is no value at all. It is called NULL.

PTS: 1 DIF: Difficulty: Moderate REF: p. 351
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Subqueries and Correlated Queries

94. Describe the important features and applications of SQL functions

ANSWER: SQL functions are very useful tools. Functions always use a numerical, date, or string value. The value may be part of the command itself (a constant or literal) or it may be an attribute located in a table. Therefore, a function may appear anywhere in a SQL statement where a value or an attribute can be used. There are many types of SQL functions, such as arithmetic, trigonometric, string, date, and time functions.

These functions are useful when all employees need to be ordered by year of birth, or when a marketing department wants to generate a list of all customers ordered by zip code and the first three digits of their telephone numbers. In both of these cases, data elements that are not present as such in the database will be required; instead, an SQL function that can be derived from an existing attribute is required.

PTS: 1 DIF: Difficulty: Moderate REF: p. 361
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: SQL Functions

95. Describe the characteristics of an Oracle sequence.

ANSWER: - Oracle sequences are an independent object in the database, where sequences are not a data type.
- Oracle sequences have a name and can be used anywhere a value is expected.
- Oracle sequences are not tied to a table or a column.
- Oracle sequences generate a numeric value that can be assigned to any column in any table.
- The table attribute, to which a value based on a sequence is assigned, can be edited and modified.
- An Oracle sequence can be created and deleted anytime.

PTS: 1 DIF: Difficulty: Moderate REF: p.383
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Sequences

96. How are triggers critical to proper database operation and management?

ANSWER: - Triggers can be used to enforce constraints that cannot be enforced at the DBMS design and implementation levels.
- Triggers add functionality by automating critical actions and providing appropriate warnings and suggestions for remedial action. In fact, one of the most common uses for triggers is to facilitate the enforcement of referential integrity.
- Triggers can be used to update table values, insert records in tables, and call other stored procedures.

PTS: 1 DIF: Difficulty: Moderate REF: p.393
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Procedural SQL

97. Summarize the hierarchy of steps involved in creating and running an executable program with embedded SQL statements.

ANSWER: While the steps required to create and execute a program consisting of embedded SQL statements vary from one programming language to another, the following steps are considered as a general standard.

a) The programmer writes embedded SQL code within the host language instructions. The code follows the standard syntax required for host language and embedded SQL.

b) A preprocessor is used to transform the embedded SQL into specialized procedure calls that are DBMS-specific and language-specific. The preprocessor is provided by the DBMS vendor and is specific to the host language.

c) The program is compiled using the host language compiler. The compiler creates an object code module for the program containing the DBMS procedure calls.

d) The object code is linked to the respective library modules and generates the executable program. This process binds the DBMS procedure calls to the DBMS run-time libraries. Additionally, the binding process typically creates an "access plan" module that contains instructions to run the embedded code at run time.

e) The executable is run, and the embedded SQL statement retrieves data from the database.

PTS: 1 DIF: Difficulty: Moderate REF: p. 411
NAT: BUSPROG: Analytic STATE: DISC: Information Technology
KEY: Bloom's: Comprehension TOP: Embedded SQL