

Homework

The following homework is designed to cover the course objectives for this unit.

Assignment 8.1:

Research the ITT Tech Virtual Library to find answers to the following questions:

- What are the different ways of establishing a connection to a database using JDBC?
- What does it mean when you get a “No suitable driver” error message from your JDBC application? What should you look for when you receive this error message?

Cite your sources using Chicago Manual of Style format. Submit your report to your instructor at the beginning of Unit 9.

Assignment 8.2:

Answer the following questions and submit them to your instructor at the beginning of Unit 9. **Note:** Some questions may go across multiple pages; be sure to read the entire question and all answer options.

1. A database URL for an access database source test is _____.
 - a. jdbc:odbc:test
 - b. sun.jdbc:odbc:test
 - c. jdbcodbc:test
 - d. test
2. Invoking Class.forName method may throw _____.
 - a. IOException
 - b. SQLException
 - c. ClassNotFoundException
 - d. RuntimeException
3. A database URL for a MySQL database named test on host panda.armstrong.edu is _____.
 - a. jdbc:mysql://panda.armstrong.edu/test
 - b. jdbc:mysql://panda.armstrong.edu/test
 - c. jdbc:mysql://panda.armstrong.edu/test
 - d. jdbc:mysql:/panda.armstrong.edu/test

4. In a relational data model, _____ imposes constraints on the data.
- structure
 - integrity
 - SQL
 - language
5. To create a statement on a Connection object conn, you should use which of the following?
- `Statement statement = conn.createStatement();`
 - `Statement statement = Connection.createStatement();`
 - `Statement statement = conn.statement();`
 - `Statement statement = connection.create();`
6. Result set meta data are retrieved through a _____.
- ResultSet object
 - PreparedStatement object
 - Connection object
 - Statement object
7. SQL _____ statements may change the contents of a database.
(Hint: There are multiple answers.)
- UPDATE
 - DELETE
 - INSERT
 - SELECT
8. In a relational data model, _____ provides the means for accessing and manipulating data. (Hint: There are multiple answers.)
- SQL
 - structure
 - language
 - integrity

9. Analyze the following code:

```
stmt.executeUpdate("insert into T values (100, 'Smith')")
```

What is the return value?

- An int value indicating how many rows are affected from the invocation
- An object that contains the status of the execution
- A value indicating whether the SQL statement has been executed successfully

- d. Void
10. Suppose that your program accesses a MySQL or Oracle database. Which of the following statements are true? (Hint: There are multiple answers.)
- a. If the driver for MySQL and Oracle are not in the classpath, the program will have a runtime error, indicating that the driver class cannot be loaded.
 - b. If the database is not available, the program will have a syntax error.
 - c. If the database is not available, the program will have a runtime error when attempting to create a Connection object.
 - d. If the driver for MySQL and Oracle are not in the classpath, the program will have a syntax error.
11. In a relational data model, _____ defines the representation of the data.
- a. structure
 - b. integrity
 - c. language
 - d. SQL
12. Which of the following statements loads the JDBC-ODBC driver?
- a. `Class.loadClass("sun.jdbc.odbc.JdbcOdbcDriver")`
 - b. `Class.forName("sun.jdbc.odbc.JdbcOdbcDriver")`
 - c. `Class.loadClass(sun.jdbc.odbc.JdbcOdbcDriver)`
 - d. `Class.forName(sun.jdbc.odbc.JdbcOdbcDriver)`
13. The `com.mysql.jdbc.Driver` is located in _____.
- a. a JAR file `mysqljdbc.jar`
 - b. the standard Java library bundled with JDK
 - c. a JAR file `classes12.jar`
 - d. an executable file named `mysqljdbc.exe`
14. To execute a SELECT statement `"select * from Address"` on a Statement object `stmt`, you should use which of the following?
- a. `stmt.query("select * from Address");`
 - b. `stmt.executeUpdate("select * from Address");`
 - c. `stmt.execute("select * from Address");`
 - d. `stmt.executeQuery("select * from Address");`

15. _____ constraints specify the permissible values for an attribute.

- a. Inter-relational
- b. Foreign key
- c. Intra-relational
- d. Primary key
- e. Domain

16. What information may be obtained from a ResultSetMetaData object?

- a. JDBC driver name and version
- b. Number of columns in the result set
- c. Database URL and product name
- d. Number of rows in the result set

17. Analyze the following code:

```
ResultSet resultSet = statement.executeQuery  
("select firstName, mi, lastName from Student where lastName "  
+ " = 'Smith'");  
System.out.println(resultSet.getString(1));
```

Which of the following statements are true? (Hint: There are multiple answers.)

- a. If the SQL SELECT statement returns no result, resultSet is null.
- b. resultSet.getString(1) returns the firstName field in the result set.
- c. resultSet.getString(1) returns the mi field in the result set.
- d. The program will have a runtime error because the cursor in resultSet does not point to a row. You must use resultSet.next() to move the cursor to the first row in the result set. Subsequently, resultSet.next() moves the cursor to the next row in the result set.

18. _____ are known as intra-relational constraints, meaning that a constraint involves only one relation. (Hint: There are multiple answers.)

- a. Primary key constraints
- b. Domain constraints
- c. Foreign key constraints
- d. None of the above

19. Which of the following are interfaces? (Hint: There are multiple answers.)

- a. ResultSet
- b. Connection
- c. Statement
- d. DriverManager

20. Which of the following statements are true? (Hint: There are multiple answers.)

- a. PreparedStatement is for SQL query statements only. You cannot create a PreparedStatement for SQL update statements.
- b. The parameters in a prepared statement are denoted using the ? sign.
- c. PreparedStatement is efficient for repeated executions.
- d. PreparedStatement is a subinterface of Statement.