1

Which interfaces or classes are in a database-specific JAR file? (Choose all that apply.)

A. Driver

B. Driver's implementation

C. DriverManager

D. DriverManager's implementation

E. Statement

F. Statement's implementation

2

Which are required parts of a JDBC URL? (Choose all that apply.)

A. Connection parameters

B. Database name

C. jdbc

D. Location of database

E. Port

F. Password

3

Which of the following is a valid JDBC URL?

A. jdbc:sybase:localhost:1234/db

B. jdbc::sybase::localhost::/db

C. jdbc::sybase:localhost::1234/db

D. sybase:localhost:1234/db

E. sybase::localhost::/db

F. sybase::localhost::1234/db

4

What file is required inside a JDBC 4.0+ driver JAR?

A. java.sql.Driver

B. META-INF/java.sql.Driver

C. META-INF/db/java.sql.Driver

D. META-INF/database/java.sql.Driver

E. META-INF/service/java.sql.Driver

5

Suppose that you have a table named animal with two rows. What is the result of the following code?

```
6:    Connection conn = new Connection(url, userName, password);
7:    Statement stmt = conn.createStatement();
8:    ResultSet rs = stmt.executeQuery("select count(*) from animal");
9:    if (rs.next()) System.out.println(rs.getInt(1));
```

A. 0

B. 2

C. There is a compiler error on line 6.

D. There is a compiler error on line 9.

E. There is a compiler error on another line.

F. A runtime exception is thrown.

6

Which of the following are true? (Choose all that apply.)

A. Calling Class.forName() is mandatory in JDBC 4.0.

B. Class.forName() throws a ClassNotFoundException if the driver class is not found.

C. Class.forName() throws a SQLException if the driver class is not found.

D. DriverManager.getConnection() throws a ClassNotFoundException if the driver class is not found.

E. DriverManager.getConnection() throws a SQLException if the driver class is not found.

7

Which of the following can fill in the blank? (Choose all that apply.)

```
public void stmt(Connection conn, int b) throws SQLException {
    Statement stmt = conn.createStatement(_____, b);
}
```

A. ResultSet.CONCUR_READ_ONLY

B. ResultSet.CONCUR_UPDATABLE

C. ResultSet.TYPE_FORWARD_ONLY

D. ResultSet.TYPE_REVERSE_ONLY

E. ResultSet.TYPE_SCROLL_INSENSITIVE

F. ResultSet.TYPE_SCROLL_SENSITIVE

8

Given a valid conn object of type `Connection`, what will happen if you run this code when the requested mode is not supported?

```
conn.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE, ResultSet.CONCUR_
UPDATABLE);
```

A. A `ClassNotFoundException` is thrown.

B. A `NoSuchTypeException` is thrown.

C. A `SQLException` is thrown.

D. A `TypeNotFoundException` is thrown.

E. The code will run without throwing an exception.

F. None of the above. The code will not compile.

9

Which of the options can fill in the blanks in order to make the code compile?

```
boolean bool = stmt._____(sql);
int num = stmt._____ (sql);
ResultSet rs = stmt._____ (sql);
```

A. execute, executeQuery, executeUpdate

B. execute, executeUpdate, executeQuery

C. executeQuery, execute, executeUpdate

D. executeQuery, executeUpdate, execute

E. executeUpdate, execute, executeQuery

F. executeUpdate, executeQuery, execute

10

Suppose that the table animal has five rows and this SQL statement updates all of them. What is the result of this code?

```
public static void main(String[] args) throws SQLException {
    Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
    Statement stmt = conn.createStatement();
    int result = stmt.executeUpdate("update animal set name = name");
    System.out.println(result);
}
```

A. 0

B. 1

C. 5

D. The code does not compile.

E. A `SQLException` is thrown.

F. A different exception is thrown.

Suppose that the table food has five rows and this SQL statement updates all of them. What is the result of this code?

```
public static void main(String[] args) {
    Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
    Statement stmt = conn.createStatement();
    int result = stmt.executeUpdate("update food set amount = amount + 1");
    System.out.println(result);
}
```

A. 0

B. 1

C. 5

D. The code does not compile.

E. A SQLException is thrown.

F. A different exception is thrown.

Which is the correct order in which to close database resources?

A. Connection, ResultSet, Statement

B. Connection, Statement, ResultSet

C. ResultSet, Connection, Statement

D. ResultSet, Statement, Connection

E. Statement, Connection, ResultSet

F. Statement, ResultSet, Connection

There are currently 100 rows in the table species before inserting a new row. What is the output of the following code?

```
try (Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
        Statement stmt = conn.createStatement()) {

    ResultSet rs = stmt.executeQuery("select count(*) from species");
    int num = stmt.executeUpdate("INSERT INTO species VALUES (3, 'Ant', .05)");
    rs.next();
    System.out.println(rs.getInt(1));
}
```

A. 100

B. 101

C. The code does not compile.

D. A SQLException is thrown.

E. A different exception is thrown.

14

Which of the following can fill in the blank correctly? (Choose all that apply.)

```
ResultSet rs = stmt.executeQuery(sql);
if (rs.next()) {

    _____

}
```

A. String s = rs.getString(0);
B. String s = rs.getString(1);
C. String s = rs.getObject(0);
D. String s = rs.getObject(1);
E. Object s = rs.getObject(0);
F. Object s = rs.getObject(1);

15

Which of the following can fill in the blank to print the month, date, year, hour, minute, and second?

A. rs.getDate("d");
B. rs.getLocalDate("d");
C. rs.getLocalDateTime("d");
D. rs.getLocalTime("d");
E. rs.getTime("d");
F. rs.getTimeStamp("d");

16

Suppose that you have a table with three rows. The names in those rows are Anna, Betty, and Cat. What does the following output?

```
String sql = "select name from animal";
try (Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
    Statement stmt = conn.createStatement();

  ResultSet rs = stmt.executeQuery(sql)) {
  rs.next();
  rs.previous();
  rs.previous();
  rs.next();
  rs.next();
  rs.absolute(2);
  System.out.println(rs.getString(1));
}
```

A. Anna
B. Betty
C. Cat
D. The code does not compile.
E. A SQLException is thrown.

17

Which of the following methods move the cursor without returning a boolean?
A. absolute()
B. afterFirst()
C. afterLast()
D. beforeFirst()
E. beforeLast()
F. previous()

18

Suppose that you have a table animal with three rows. The names in those rows are Anna, Betty, and Cat. What does the following output?

```
String sql = "select name from animal order by id";
try (Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
    Statement stmt = conn.createStatement();

   ResultSet rs = stmt.executeQuery(sql)) {
   rs.absolute(0);
   rs.next();
   System.out.println(rs.getString(1));
}
```

A. Anna
B. Betty
C. Cat
D. The code does not compile.
E. A SQLException is thrown.

19

In a table animal with 10 rows, how many times does true get output by the following? (Choose all that apply.)

```
String sql = "select * from animal";
try (Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
    Statement stmt = conn.createStatement(
        ResultSet.TYPE_SCROLL_INSENSITIVE, ResultSet.CONCUR_READ_ONLY);

   ResultSet rs = stmt.executeQuery(sql)) {
   System.out.println(rs.absolute(0));
   System.out.println(rs.absolute(5));
   System.out.println(rs.previous());
   System.out.println(rs.relative(-2));
   System.out.println(rs.relative(-100));
```

A. One
B. Two
C. Three
D. Four
E. Five
F. The code does not compile.
G. A SQLException is thrown.

In the table animal with 10 rows, how many times does true get output by the following? (Choose all that apply.)

```
String sql = "select * from animal";
try (Connection conn = DriverManager.getConnection("jdbc:derby:zoo");
     Statement stmt = conn.createStatement(
         ResultSet.TYPE_SCROLL_INSENSITIVE, ResultSet.CONCUR_READ_ONLY);

   ResultSet rs = stmt.executeQuery(sql));
   System.out.println(rs.beforeFirst());
   System.out.println(rs.absolute(5));
   System.out.println(rs.previous());
   System.out.println(rs.relative(-2));
   System.out.println(rs.afterLast());
```

A. One
B. Two
C. Three
D. Four
E. Five
F. The code does not compile.
G. A SQLException is thrown.