1. Which pair of statements is true when requesting a ResultSet to be both scroll sensitive and updatable?

I. The scroll sensitive option is passed as a parameter before the updatable parameter.

II. The updatable option is passed as a parameter before the scroll sensitive parameter.

III. If these options are not available, the database driver returns a ResultSet with different options.

IV. If these options are not available, the database driver throws a SQLException.

A. I, III

B. I, IV

C. II, III

D. II, IV

2. Suppose the blue database exists and we are using a JDBC 4.0 driver. Which is the

outcome of this code?

```
String url = "jdbc:derby:blue";
Class.forName(url);
try (Connection conn = DriverManager.getConnection(url);
Statement stmt = conn.createStatement();
ResultSet rs = stmt.executeQuery("select count(*) from sky")) {
System.out.println(rs.getInt(1));
}
```

A. It runs successfully and prints the number of rows in the sky table.

B. It throws a ClassNotFoundException.

C. It throws a SQLException.

D. It does not compile.

3. Fill in the blanks: There are _____ ResultSet concurrency modes, and drivers
are required to support _____.
A. two, both
B. two, one of them
C. three, two of them
D. three, all of them

4. What is the output when run with a JDBC 4.0 driver if the clowns database exists and

contains an empty clowns table?

```
String url = "jdbc:derby:clowns";
try (Connection conn = DriverManager.getConnection(url);
Statement stmt = conn.createStatement();
ResultSet rs = stmt.executeQuery("select count(*) from clowns")) {
System.out.println(rs.getInt(1));
}
```

A. 0

B. 1

C. The code does not compile.

D. The code compiles but throws an exception at runtime.

5. Consider the three methods execute(), executeQuery(), and executeUpdate(). Fill in the blanks: _____ of these methods is/are allowed to run a DELETE SQL statement while _____ of these methods is/are allowed to run an UPDATE SQL statement.

A. One, one
B. One, two
C. Two, one
D. Two, two

6. Assuming the clowns database exists and contains one empty table named clowns, what is the output of the following when run using a JDBC 4.0 driver?

```
import java.sql.*;

public class EmptyTable {

public static void main(String[] args) throws SQLException { // s1

String url = "jdbc:derby:clowns";

try (Connection conn = new Connection(url); // s2

Statement stmt = conn.createStatement();

ResultSet rs = stmt.executeQuery("select * from clowns")) {

if (rs.next())

System.out.println(rs.getString(1));

}

}

}
```

A. The code terminates successfully without any output.

B. The code does not compile due to line s1.

C. The code does not compile due to line s2.

D. None of the above

7. Which are valid ResultSet types?

I. TYPE_BACKWARD_ONLY

II. TYPE_FORWARD_ONLY

III. TYPE_REVERSE_ONLY

A. II

B. I and II

C. II and III

D. None of the above

8. Given the table books in the figure and a ResultSet created by running the following SQL statement, which option prints the value 379?

title character varying(255)	num_pages integer
OCA	379
OCP	669

select * from cert where title = 'OCA'
A. System.out.println(rs.getInt(1));
B. System.out.println(rs.getInt(2));
C. System.out.println(rs.getInteger(1));
D. System.out.println(rs.getInteger(2));

9. Given the table books in the previous question and a ResultSet created by running this SQL statement, which option prints OCP?

select title from cert where num_pages > 500

A. System.out.println(rs.getString());

B. System.out.println(rs.getString("0"));

C. System.out.println(rs.getString("1"));

D. System.out.println(rs.getString("title"));

10. Assume the database exists with all referenced table and column names. Which is a true statement when a JDBC 4.0 driver is used?

```
String url = "jdbc:derby:precipitation";

try (Connection conn = DriverManager.getConnection(url);

Statement stmt = conn.createStatement(

ResultSet.CONCUR_READ_ONLY,

ResultSet.TYPE_SCROLL_INSENSITIVE);

ResultSet rs = stmt.execute( "select total from precip where type =

'rain'")) {

System.out.println(rs.getString("total"));

}
```

A. There is a compiler error on the line of code that creates the Statement.
B. There is a compiler error on the line of code that creates the ResultSet.
C. This code compiles and runs without error.
D. This code throws a SQLException at runtime.

11. Which resources have their close() method called when this code runs?

```
public static void runQuery(Connection conn) throws SQLException{

try (Statement stmt = conn.createStatement()) {

ResultSet rs = stmt.executeQuery("select * from clowns");

rs.next();

}

}
```

A. No close() methods are called.
B. Only Statement
C. Only Statement and Connection
D. Only Statement and ResultSet

12. Which statement is true about the JDBC core classes?

A. Driver is an implementation of DriverManager.

B. A general Connection implementation is included in the JDK.

C. A Statement automatically starts in auto-commit mode.

D. A ResultSet automatically starts pointing to the first row of data.

13. Which of the following is required in a database driver implementation?

A. A file named jdbc.driver

B. A file named java.sql.Driver

C. At least one implementation of the Connection interface

D. None of the above

14. Given that the people table has 10 rows, what is the result of the following when using a driver that supports a scroll sensitive ResultSet?

```
try (Connection conn = DriverManager.getConnection(url);
Statement stmt = conn.createStatement(
ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_READ_ONLY);
ResultSet rs = stmt.executeQuery("select count(*) from people")) {
rs.next();
rs.absolute(0); // q1
System.out.print(rs.getInt(1)); // q2
}
```

A. 10
B. The code does not compile.
C. Line q1 throws a SQLException.
D. Line q2 throws a SQLException.

15. Given a scrollable updatable ResultSet that contains the following, what does the code snippet output?

color character varying(255)	count integer
black	20
blue	5
red	0

```
rs = stmt.executeQuery("select * from pens");
rs.afterLast();
rs.previous();
rs.updateInt(2, 10);
rs.updateRow();
rs = stmt.executeQuery("select * from pens where color = 'red'");
while (rs.next())
System.out.println(rs.getInt(2));
```

A. 0
B. 10
C. The code does not compile.
D. The code compiles but throws an exception at runtime.