Threads

3. What is the default priority of threads?

The default priority is 5.

4. Which possible outputs can this running code produce?

Most probably the code will print the value ‘7’ five times, because the thread.start() method is called before the loop and most probably there will be enough processor time to complete the execution of the method, before the instructions in the loop. It’s also possible to have mixed output, for example if the instructions of the loop are executed before the run() method of the thread, then it’s possible for the old value ( 9 ) to be printed as well. The output is non-deterministic.

5. What will be the result when running this code?

The program will print ‘19’. The reason is because when we create the thread, the value of ‘x’ is changed to ‘10’ and then the thread is started. When the thread is running it multiplies the value of ‘x’ by 2 and that way ‘x’ equals ‘20’. When we call the ‘foo()’ method, we are calling it from the main thread, and we are waiting for the execution of ‘MyThread’ to end. When the ‘run()’ method is complete we decrease the value of ‘x’ by 1 and print the result which is 19.

6. What will be the result when running this code?

It will print ‘false’ twice. That’s because another thread isn’t actually started. We are executing the run() method in the same context of the current thread, meaning we are executing it synchronously.

7. Which of these are atomic operations?

A. Reading/writing reference variables

8. Which statement is true of this code?

B. The class is thread-safe.

9. Which of these statements about immutable classes is not true?

A. The class should be final to avoid inheritance.

JDBC

1. Which of these SQL statements are DML statements?

A. update [table] set ...

B. delete from [table] ...

D. insert into [table] ...

2. Which of these is an incorrect way to access the data in a ResultSet?

A. String value0 = rs.getString(0);

3. What information cannot be obtained from the SQLException object?

C. Database request causing the error.

5. Which of the following statements is true?

A. CallableStatement extends the PreparedStatement interface. This interface can be used to call SQL stored procedures.

D. Batch processing of SQL statements is possible using PreparedStatement.

6. How to start a new database transaction?

D. By setting the autoCommit property of the Connection to false and executing an SQL statement

7. When do we use the transaction on databases?

B. To perform multiple operations atomically

8. Which connection is usually interpreted with a connection table?

C. m-n connection

9. Which one is not part of the Entity-Relationship diagram?

D. Class

10. Which one is not true about the relationship between JTable and the model?

C. The model cannot notify JTable of the change

Software Technology / UML

Implementation related questions

1. What kind of methods do we have to implement when we would like to use instances of our own class as keys in a HashMap?

D. hashCode(…) and equals(…) methods

2. Which of the following options should you choose if you want to apply mainly an index-based search to a dynamically changing data set where the same element can occur more than once? (We only want to add a new item to the end of the collection, we don't want to delete it from the collection often.)

E. ArrayList

4. Which of the following implementations of interfaces are used to store key-value pairs?

B. Set

8. Which collection can be indexed?

C. Vector

Software development methodologies and models

Version control

1. What is the purpose of the continuous integration (CI) practical method?

A. Immediate, automated filtering of possible errors and integration problems, feedback to the developer. (Self-check build)

D. Complete replacement of manual testing.

2. What are the disadvantages of centralized version control systems (Example: SVN, Perforce, CVS)?

A. The privileged role of the server. (In the event of a failure, the system becomes unusable until the server is repaired.) In addition, version control requires a network connection.

3. Which statement is not true for distributed version control systems (Example: Git, Mercurial)?

D. A set of file-based operations is typical, where concurrency management is typically done by merging before submission.

4. Is it true that there can be no conflict with Git merge?

D. False, as git may not be able to resolve changes automatically. (Example: Two different commit stores a change on the same line in a file.)

5. Which of the following are the build tools?

A. Ant, Maven, Gradle

Design principles, Design patterns