

## JDBC Assignment

1. What are the seven steps needed to use a database from within Java?

**ANSWER:**

- Load the JDBC driver
- Define the connection URL
- Establish the connection
- Create a Statement object
- Execute a query or update
- Process the results
- Close the connection.

2. Write a statement that loads the Apache Derby driver for the built-in embedded Java Database.

**ANSWER:**

```
Class.forName("org.apache.derby.jdbc.EmbeddedDriver");
```

3. Write a statement that creates a Connection object using a URL for the database called "employees" using the Apache Derby embedded database,

**ANSWER:**

```
Connection conn = DriverManager.getConnection("jdbc:derby:employees");
```

4. For the Connection object, what is the difference between the createStatement, prepareStatement, and prepareCall methods?

**ANSWER:**

createStatement and prepareStatement allow the execution of SQL query strings in an ad-hoc manner. However, prepareStatement allows easy binding of user-provided parameters into that statement in a manner that is not subject to SQL injection security vulnerabilities. prepareCall allows the code to execute a stored procedure in the database that has been defined by the database administrator.

5. What do the commit and rollback methods of a Connection object do?

**ANSWER:**

If a transaction is pending (i.e. when auto-commit is false), commit will make the changes from an insert or an update permanent in the database. The rollback method undoes any changes that the update or insert made to the database.

6. Managing sources of data is tricky in Java because of the differences between objects and relational sources. One solution to the object-relational mismatch is to use the Data Access Object pattern. Do some research into this pattern and describe its advantages and disadvantages

**ANSWER:**

See: <http://www.oracle.com/technetwork/java/dataaccessobject-138824.html>

7. Another solution to the object-relational mismatch is to use an object-relational mapper (ORM) such as Hibernate. Do some research into ORM technology and describe the advantages and disadvantages over DAOs.

**ANSWER:**

See: <http://www.codefutures.com/2005-2/02-2/andy-groves-weblog-data-access-object-dao-versus-object-relational-mapping-orm/>