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Week 10 BE research

Prompts

1. What is JDBC? What does it stand for? How does it differ from or relate to MySQL?

- JDBC stands for Java Database Connectivity. It is a Java API (application programming interface) that uses drivers to connect to a MySQL database and allows us to connect to and execute queries on the database we use it to connect to.

2. Give an example of the primary JDBC Classes? What Classes do we use to do the following, and give an example of syntax to accomplish the following:

- Some primary JDBC classes are DriverManager, Driver, Statement, PreparedStatement, CallableStatement, Connection, ResultSet,

(a) Attach or Connect to a database

```
Connection conn = DriverManager.getConnection(uri);
```

(b) Create a statement (to perform one of the CRUD operations on a database)

```
String sql = ""
+"SELECT c.* FROM " + CATEGORY_TABLE + " c "
+"JOIN " + PROJECT_CATEGORY_TABLE + " pc USING (category_id) "
+"WHERE project_id = ?";

PreparedStatement stmt = conn.prepareStatement(sql)
```

(c) Execute a query

```
ResultSet rs = stmt.executeQuery()
```

(d) Process the data retrieved,

```
while(rs.next()) {
        categories.add(extract(rs, Category.class));
}
```

(e) Close the connection to the database

```
Connection.close();
```

3. What are the two method calls to execute a query in JDBC, and when do you use each?

The two method calls to execute a query in JDBC are executeQuery() and executeUpdate(). We use executeQuery() with SQL SELECT statements and we use executeUpdate() with SQL statements such as DELETE, INSERT and UPDATE.

Sources:

https://www.javatpoint.com/java-jdbc

https://www.geeksforgeeks.org/java-database-connectivity-with-mysql/

https://www.tutorialspoint.com/what-are-the-main-classes-and-interfaces-of-jdbc

chat.gpt – I asked about the 2 types of method calls to execute a query in JDBC and it gave me a clearer answer than I could find on a website.