Objectives

- Review: JDBC
- Code Organization
- Midterm Exam

Review: JDBC

- Why do we have JDBC?
  - What does it do for us?
- What steps do you need to do to make a query?
- Compare the two types of Statements
- What object is returned from executing a SELECT query?

Ternary Operator

- Alternative if-then-else syntax
- Returns a value
- Example of assigning a variable the minimum:
  \[
  \text{minVal} = (a < b \ ? \ a \ : \ b);
  \]
  - Assign minVal value a if condition is true, b if condition is false

Ternary Operator in JSP

- Allows for more concise code

\[
<\text{input type=text name="username" value="\%\&\%" username !\= null ? userName : \"\"}>\]<\a href="\%\&\%request.getContextPath()\%">Main Page</a>
\]

HttpServletRequest

- `getContextPath()`
  - Returns the portion of the request URI that indicates the context of the request.
- Example with various Request methods

Use in JSP

- `<a href="$\&\%request.getContextPath()$">Main Page</a>`

```html
getScheme() -> "http"
getServerName() -> "example.com"
getServerPort() -> 8080
getContextPath() -> "ccmapp"
getServletPath() -> "forum"
getPathInfo() -> "index.jsp"
getParameter("cat") -> [2, 5]
getParameterValues("cat") -> [2, 5]"```
Code Organization

Name packages in a way that avoids conflicts

Base Package: edu.wlu.cs.logic
  e.g., edu.wlu.cs.logic.servlets

Servlets and JDBC

• In general, we want to minimize the use of JDBC in the Servlets
  ➢ Don’t want to duplicate code
  ➢ If DB tables or queries change, only change in one place
  ➢ Instead, we want to have Java classes (model) that communicate with the DB
  ➢ Convert ResultSet to objects that Servlets/JSPs can use

Authorized Access

• We don’t want users to get to various pages unless they are authorized to see those pages
  ➢ Instead of making every Servlet check authorization, we’ll use a ServletFilter
    ➢ Requests go through ServletFilter before going to the Servlet

Protecting JSPs

• If there are JSPs that you don’t want users to be able to access from typing in the URL, put them in the WEB-INF directory
  ➢ Web application server blocks access to the JSP
  ➢ Don’t need code to check authorization again
    ➢ Only get to JSP through a Servlet that checks authorization
  ➢ Forward requests from a Servlet to the JSP by including WEB-INF in the URI

Code Organization

• src
  ➢ edu.cs.wlu.logic
• WebContent
  ➢ WEB-INF/student
  ➢ WEB-INF/admin
  ➢ WEB-INF/professor

TODO

• Midterm
• Lab 7
• Project
  ➢ Implementation deadline 1, demo next Wednesday
  ➢ Organize code