Java Full Stack Lab Manual - JDBC Experiment

Aim

To demonstrate the usage of JSTL Function Tags such as fn:length(), fn:toUpperCase(), fn:toLowerCase(), fn:contains(), fn:startsWith(), and fn:substring().

Technologies Used

JSP, JSTL (Functions Tag Library), Apache Tomcat

Directory Structure

```
JSTLFunctionDemo/
|
+- function-demo.jsp
+- WEB-INF/
   +- web.xml
   +- lib/
      +- jstl.jar
```

Required JARs (Place in WEB-INF/lib/)

jakarta.servlet.jsp.jstl-api-*.jar

jakarta.servlet.jsp.jstl-impl-*.jar

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function-demo.jsp

```jsp
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<%@ taglib prefix="fn" uri="http://java.sun.com/jsp/jstl/functions" %>
<html>
<head><title>JSTL Function Tag Demo</title></head>
<body>

<h2>JSTL Function Tag Examples</h2>

<c:set var="username" value="MadhuParvathaneni" />
<p>Original String: ${username}</p>

<!-- String length -->
<p>Length: ${fn:length(username)}</p>

<!-- Convert to upper case -->
<p>Upper Case: ${fn:toUpperCase(username)}</p>

<!-- Convert to lower case -->
<p>Lower Case: ${fn:toLowerCase(username)}</p>

<!-- Check if string contains -->
<p>Contains 'Parva'? ${fn:contains(username, "Parva")}</p>

<!-- Check if string starts with -->
<p>Starts with 'Madhu'? ${fn:startsWith(username, "Madhu")}</p>

<!-- Substring -->
<p>Substring (0-5): ${fn:substring(username, 0, 5)}</p>

</body>
</html>
```

web.xml

```xml
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
        http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd"
        version="3.1">

    <welcome-file-list>
        <welcome-file>function-demo.jsp</welcome-file>
    </welcome-file-list>

</web-app>
```

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How to Run

1. Download required JSTL JARs and place them in `WEB-INF/lib`.

2. Deploy the `JSTLFunctionDemo` folder in Tomcat's `webapps` directory.

3. Start Tomcat and visit: http://localhost:8080/JSTLFunctionDemo/function-demo.jsp

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Expected Output

```
Original String: MadhuParvathaneni
Length: 18
Upper Case: MADHUPARVATHANENI
Lower Case: madhuparvathaneni
Contains 'Parva'? true
Starts with 'Madhu'? true
Substring (0-5): Madhu
```

Result

Successfully demonstrated JSTL function tags to perform common string operations.