JSTL Core, Formatting, and Functions Tags - Notes

JSTL (JavaServer Pages Standard Tag Library) provides ready-made tags for common tasks like iteration, conditions, formatting, and string functions.

To use JSTL, add the following at the top of your JSP file:

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
```

1. JSTL Core Tags (c:)

Used for flow control, variables, and iteration.

a) c:out

Syntax:

```
<c:out value="${expression}" />
```

Example:

```
<c:set var="name" value="Sarath" />
<c:out value="${name}" />
```

Output → Sarath

b) c:set

Syntax:

```
<c:set var="varName" value="value" />
```

Example:

```
<c:set var="marks" value="80" />
Marks: <c:out value="${marks}" />
```

c) c:if

Syntax:

```
<c:if test="${condition}"> ... </c:if>
```

Example:

```
<c:if test="${marks >= 50}">
  <p>You Passed!</p>
</c:if>
```

d) c:forEach

Syntax:

```
<c:forEach var="item" items="${collection}"> ... </c:forEach>
```

Example:

```
<c:set var="fruits" value="${['Apple','Banana','Mango']}" />
```

```
<ul>
  <c:forEach var="f" items="${fruits}">
     <li>${f}</li>
  </c:forEach>
</ul>
```

LAB Programs

```
<%@ taglib prefix="c" uri="jakarta.tags.core" %>
```

Week 12a. Factorial Calculator

This example uses **c:set + c:if + c:forEach + c:out**.

```
<%@ page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="jakarta.tags.core" %>

<!DOCTYPE html>
<html>
<body>
<h2>Factorial Calculator</h2>
<form method="post">
        Enter Number: <input type="text" name="num" value="${param.num}">
        <input type="submit" value="Find Factorial">
</form>

<c:if test="${not empty param.num}">
        <c:set var="n" value="${param.num}" />
        <c:set var="fact" value="1" />
        <c:forEach var="i" begin="1" end="${n}">
        <c:set var="fact" value="${fact * i}" />
  </c:forEach>

        <!-- FIXED: Added dollar signs ($) and variable names inside the brackets -->
        <h3> Factorial of <c:out value="n"/ >=< c: outvalue = "{fact}" /></h3>
</c:if>
</body>
</html>
```

Output



JSTL concepts

c:set → stores n and fact
c:forEach → repeats from 1 to n
c:set → calculates fact = fact × i
c:out → displays the result
c:if → executes only when input is available

week12b. Simple Calculator

This is a useful example for demonstrating **c:if with multiple conditions**.

calculator.jsp

```
<%@ page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="jakarta.tags.core" %>

<!DOCTYPE html>
<html>
<head>
  <title>Simple Calculator</title>
</head>
<body>

<h2>Simple Calculator</h2>

<form method="post">
        Number 1:
        <input type="text" name="num1"  value="${param.num1}">
  <br><br>

        Number 2:
        <input type="text" name="num2"  value="${param.num2}">
  <br><br>

        Operation:
        <select name="op">
        <option value="add">Addition</option>
```

```
        <option value="sub">Subtraction</option>
        <option value="mul">Multiplication</option>
          <option value="div">Division</option>
        </select>

  <br><br>

        <input type="submit" value="Calculate">

</form>

<c:if test="${not empty param.num1 and not empty param.num2}">

        <c:set var="a" value="${param.num1}" />
        <c:set var="b" value="${param.num2}" />

        <c:if test="${param.op == 'add'}">
        <c:set var="result" value="${a + b}" />
        </c:if>

        <c:if test="${param.op == 'sub'}">
        <c:set var="result" value="${a - b}" />
        </c:if>

        <c:if test="${param.op == 'mul'}">
        <c:set var="result" value="${a * b}" />
        </c:if>

        <c:if test="${param.op == 'div' and b != 0}">
        <c:set var="result" value="${a / b}" />
        </c:if>

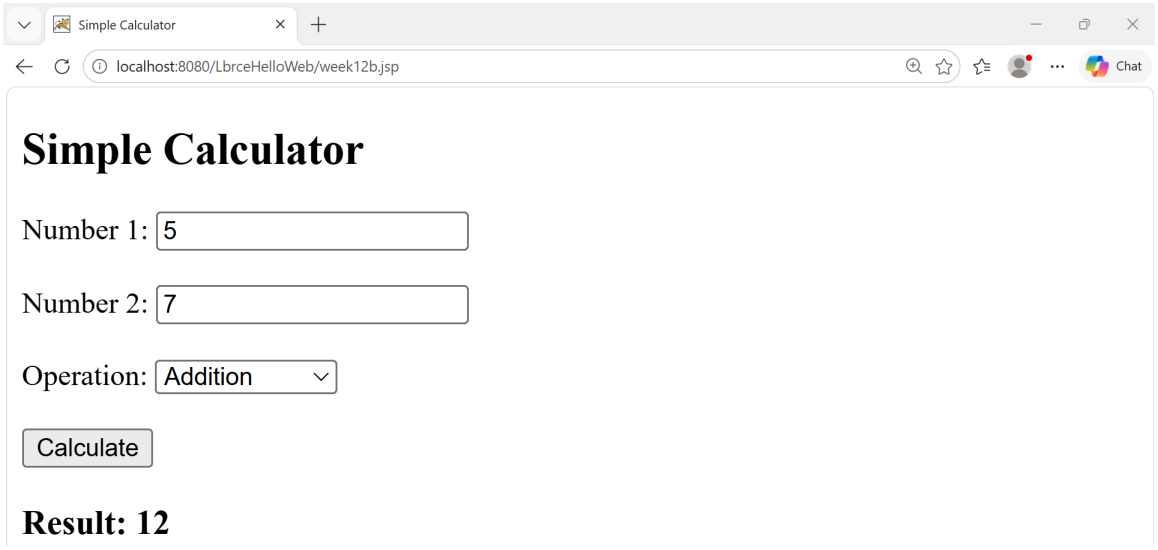
        <c:if test="${param.op == 'div' and b == 0}">
    <h3>Cannot divide by zero</h3>
        </c:if>

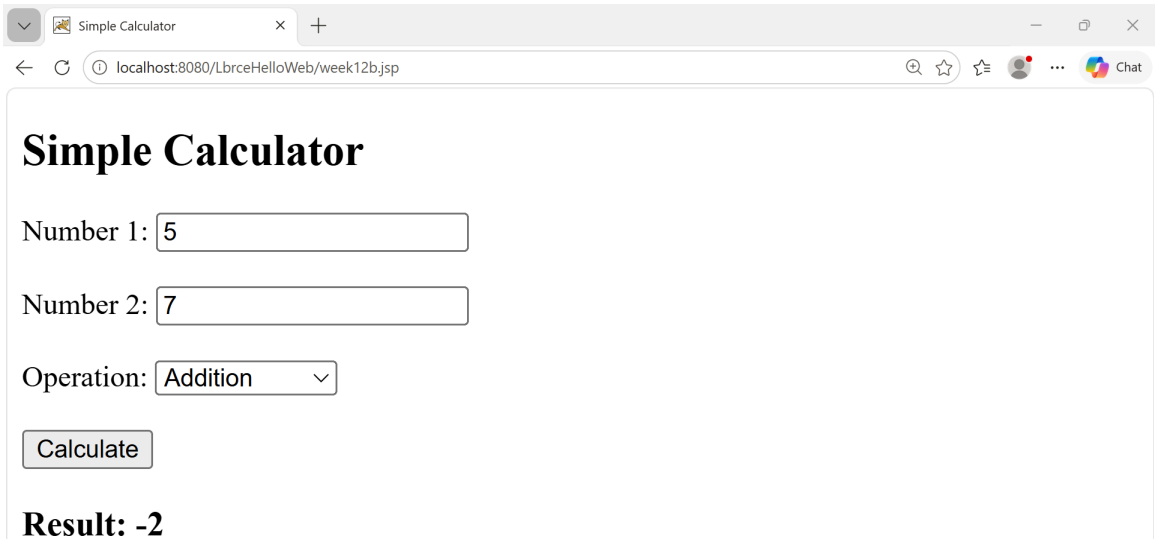
        <c:if test="${param.op != 'div' or b != 0}">
        <h3>
        Result:
        <c:out value="${result}" />
        </h3>
        </c:if>
```

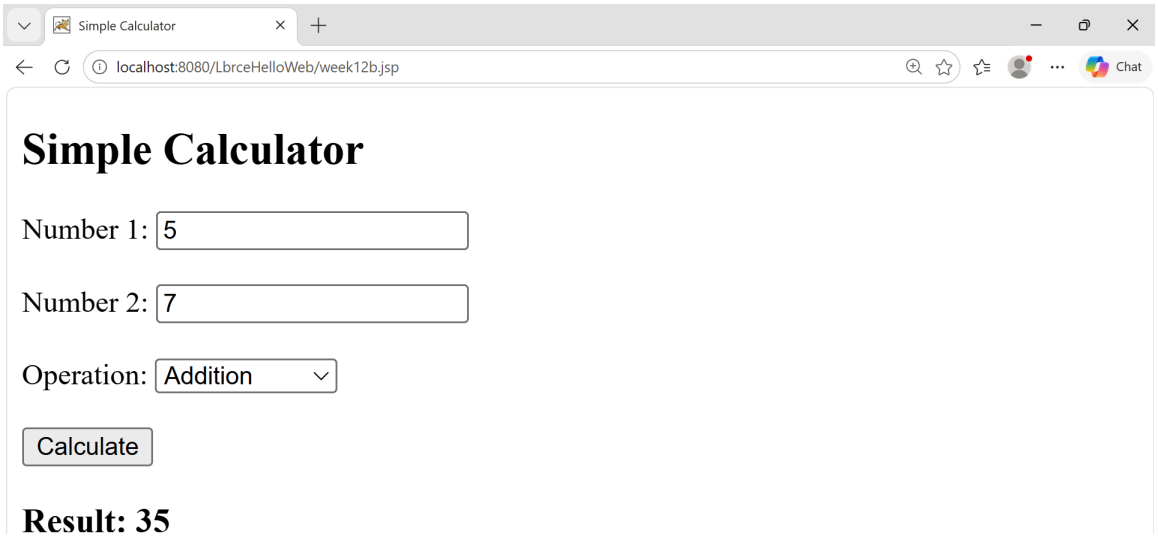
```
</c:if>

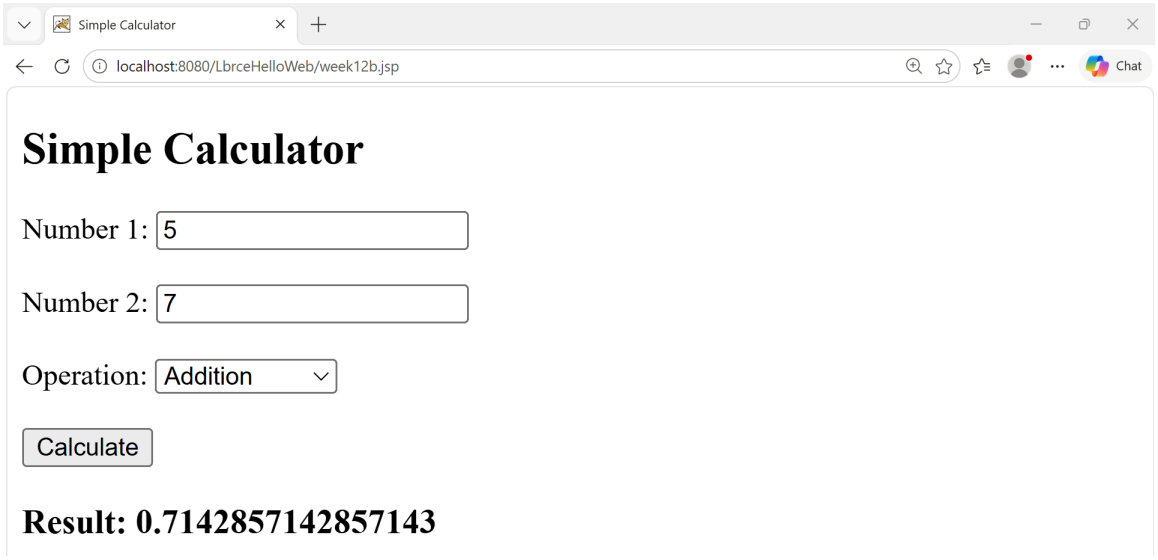
</body>
</html>
```

Output









week12c. Student Marks using paramValues

This is a very good **real-time college example**.

```
<%@ page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="jakarta.tags.core" %>

<!DOCTYPE html>
<html>
<head>
	<title>Student Marks</title>
</head>
<body>
```

```
<h2>Student Marks</h2>

<form method="post">

	Subject 1:
	<input type="text" name="marks">
	<br><br>

	Subject 2:
	<input type="text" name="marks">
	<br><br>

	Subject 3:
	<input type="text" name="marks">
	<br><br>

	Subject 4:
	<input type="text" name="marks">
	<br><br>

	Subject 5:
	<input type="text" name="marks">
	<br><br>

	<input type="submit" value="Calculate">

</form>

<c:if test="${not empty paramValues.marks}">

	<c:set var="total" value="0" />

	<c:forEach var="mark" items="${paramValues.marks}">

	<c:set var="total"
	value="${total + mark}" />

	</c:forEach>

	<c:set var="average"
	value="${total / 5}" />

	<h3>Total Marks = ${total}</h3>
```

```
        <h3>Average = ${average}</h3>

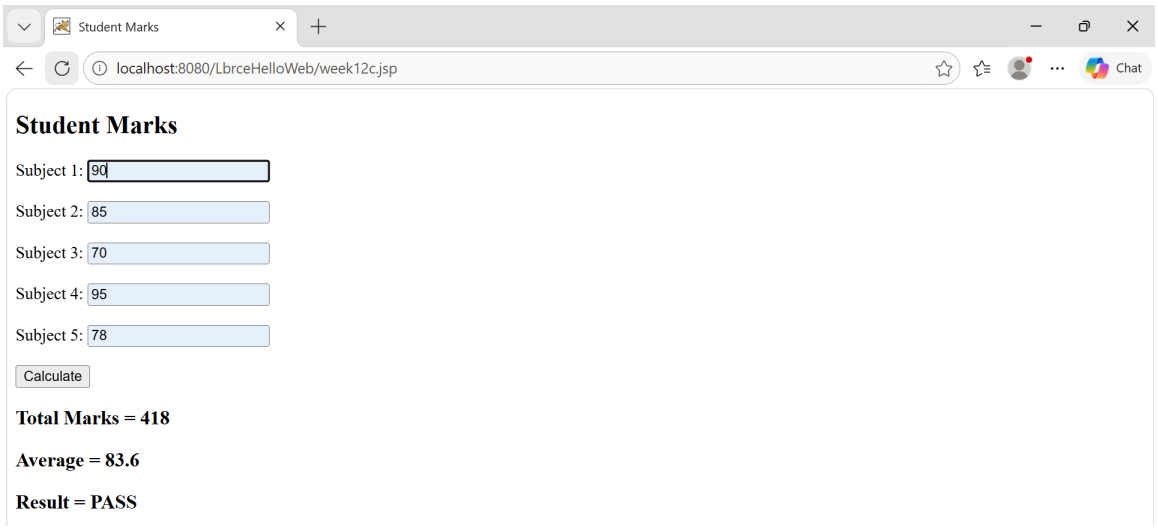
        <c:if test="${average >= 40}">
        <h3>Result = PASS</h3>
        </c:if>

        <c:if test="${average < 40}">
        <h3>Result = FAIL</h3>
        </c:if>

</c:if>

</body>
</html>
```

Input



Note add below dependencies if pom.xml under dependency

```
    <dependency>
      <groupId>jakarta.servlet.jsp.jstl</groupId>
      <artifactId>jakarta.servlet.jsp.jstl-api</artifactId>
      <version>3.0.1</version>
    </dependency>
```

```
<dependency>
    <groupId>org.glassfish.web</groupId>
    <artifactId>jakarta.servlet.jsp.jstl</artifactId>
    <version>3.0.1</version>
</dependency>
```