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SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043

Department of Electronics & Telecommunication Engineering (E&TCE)

ASSESMENT YEAR: 2024-2025 | CLASS: TE | BATCH:- N7

SUBJECT: Advanced JAVA Programming

Assignment No: 10 | Roll No: 32402 | Date: 02/04/2025

Programmer Name: Sahil Amrutkar

Batch: N7

Problem Statement:

Create a simple calculator application using servlet.

Code:

index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple Calculator</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <div class="container">
    <h2>Simple Calculator</h2>
    <form action="CalculatorServlet" method="post">
       <input type="number" name="num1" placeholder="Enter first number" required>
       <input type="number" name="num2" placeholder="Enter second number" required>
       <select name="operation">
         <option value="add">Addition (+)</option>
         <option value="subtract">Subtraction (-)</option>
         <option value="multiply">Multiplication (x)</option>
         <option value="divide">Division (÷)</option>
```

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```
</select>
       <button type="submit">Calculate</button>
     </form>
  </div>
</body>
</html>
styles.css:
body {
 font-family: Arial, sans-serif;
 background-color: #f5f5f5;
 text-align: center;
}
.container {
 width: 90%;
 max-width: 400px;
 margin: 100px auto;
 padding: 20px;
 background: white;
 border-radius: 8px;
 box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}
h2 {
 margin-bottom: 20px;
input,
```

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```
select,
button {
width: 100%;
margin: 10px 0;
padding: 10px;
button {
background: blue;
color: white;
border: none;
cursor: pointer;
}
button:hover {
background: darkblue;
}
CalculatorServlet.java:
package com.calculator;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
public class CalculatorServlet extends HttpServlet {
  private static final long serialVersionUID = 1L;
```



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```
protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
  response.setContentType("text/html");
  PrintWriter out = response.getWriter();
  // Getting input values
  double\ num1 = Double.parseDouble(request.getParameter("num1"));
  double num2 = Double.parseDouble(request.getParameter("num2"));
  String operation = request.getParameter("operation");
  double result = 0;
  // Performing operation
  switch (operation) {
    case "add": result = num1 + num2; break;
    case "subtract": result = num1 - num2; break;
    case "multiply": result = num1 * num2; break;
    case "divide":
      if (num2 != 0) {
         result = num1 / num2;
       } else {
         out.println("<h3 style='color:red;'>Error: Division by zero is not allowed!</h3>");
         return;
       break;
  }
  // Sending response back
```



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```
out.println("<html><head><title>Result</title></head><body>");
    out.println("<h2>Calculation Result:</h2>");
    out.println("<h3>" + num1 + " " + getOperator(operation) + " " + num2 + " = " + result + "</h3>");
    out.println("<a href='index.html'>Go Back</a>");
    out.println("</body></html>");
  private String getOperator(String operation) {
    switch (operation) {
       case "add": return "+";
       case "subtract": return "-";
       case "multiply": return "x";
       case "divide": return "÷";
       default: return "";
web.xml:
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"</pre>
     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_4_0.xsd"
     version="4.0">
  <servlet>
    <servlet-name>CalculatorServlet</servlet-name>
    <servlet-class>com.calculator.CalculatorServlet</servlet-class>
  </servlet>
```



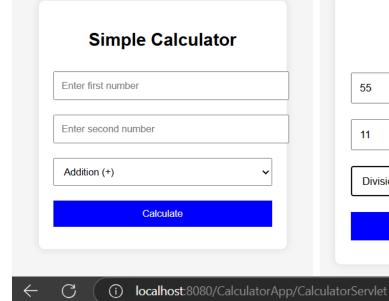
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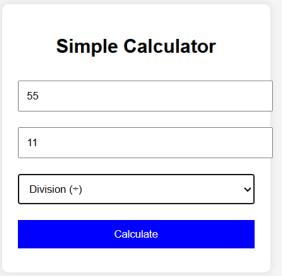
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Output:





Calculation Result:

 $55.0 \div 11.0 = 5.0$

Go Back