

PRACTICAL 6(D) – JSP LOAN CALCULATOR

AIM

To design and develop a Loan Calculator using JSP which accepts Principal Amount and Time Period (in years) and calculates loan details based on the following interest slabs: • 1 to 7 years at 5.35% • 8 to 15 years at 5.50% • 16 to 30 years at 5.75%

SOFTWARE REQUIREMENTS

- Operating System: Windows / Linux
- JDK: Version 7 or 8
- NetBeans IDE 7.x
- Apache Tomcat Server 7.x

THEORY

A Loan Calculator is a financial application used to calculate the monthly payment, total interest, and remaining loan balance over a given time period. JSP is used to handle user input and perform server-side calculations dynamically based on interest slabs.

FORMULA USED

Simple Interest Formula: $\text{Interest} = (\text{Principal} \times \text{Rate} \times \text{Time}) / 100$
Total Amount = Principal + Interest
Monthly Payment = Total Amount / (Time \times 12)

SOURCE CODE – loan.jsp (Input Form)

```
<html>
<body>
<h2>Loan Calculator</h2>
<form action="calculate.jsp" method="post">
Principal Amount: <input type="text" name="principal"><br><br>
Time Period (Years): <input type="text" name="years"><br><br>
<input type="submit" value="Calculate Loan">
</form>
</body>
</html>
```

SOURCE CODE – calculate.jsp (Calculation Logic)

```
<%
double principal = Double.parseDouble(request.getParameter("principal"));
int years = Integer.parseInt(request.getParameter("years"));
double rate = 0;

if (years >= 1 && years <= 7) {
    rate = 5.35;
} else if (years >= 8 && years <= 15) {
    rate = 5.50;
```

```

    } else if (years >= 16 && years <= 30) {
        rate = 5.75;
    }

    double interest = (principal * rate * years) / 100;
    double totalAmount = principal + interest;
    double monthlyPayment = totalAmount / (years * 12);
    %>

<html>
<body>
<h2>Loan Details</h2>
Principal Amount: <%= principal %><br>
Time Period: <%= years %> years<br>
Interest Rate: <%= rate %> %<br>
Total Interest: <%= interest %><br>
Total Amount Payable: <%= totalAmount %><br>
Monthly Payment: <%= monthlyPayment %><br>
</body>
</html>

```

NETBEANS 7 – DETAILED EXECUTION STEPS

1. Open NetBeans IDE 7
2. File → New Project → Java Web → Web Application
3. Project Name: LoanCalculatorApp
4. Select Apache Tomcat Server
5. Click Finish
6. Right-click Web Pages → New → JSP
7. Create loan.jsp and calculate.jsp
8. Paste respective code
9. Right-click project → Run
10. Enter loan details and view calculation

OUTPUT

The application displays loan interest rate, total interest, total payable amount, and monthly installment based on selected time period.

RESULT

Thus, Loan Calculator using JSP with different interest slabs was successfully implemented.