

Find Factorial using Servlets:

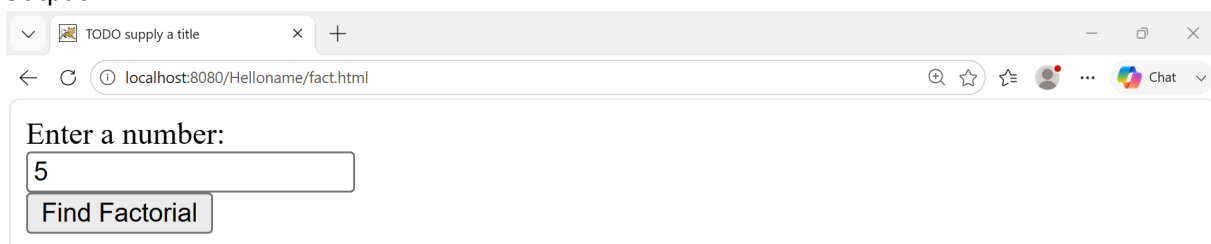
Fact.html

```
<html>
  <body>
    <form method="GET" action="fact">
      Enter a number:<br>
      <input type="text" name="t1"><br>
      <input type="submit" value="Find Factorial">
    </form>
  </body>
</html>
```

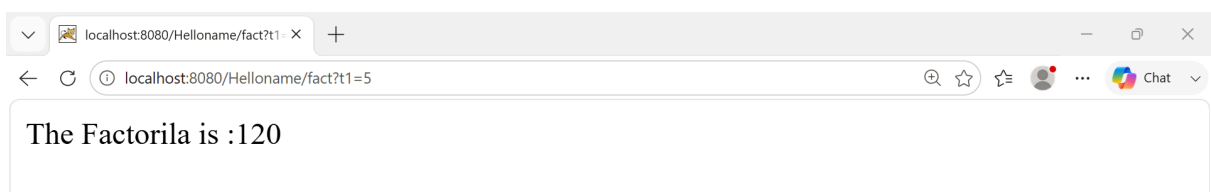
FactServlet.java

```
package com.lbrce.it.helloname;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class FactServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int number=Integer.parseInt(request.getParameter("t1"));
        int fact=1;
        for(int i=number;i>0;i--)
        {
            fact=fact*i;
        }
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Factorila is :"+fact);
        }
    }
}
```

Output:



Enter a number:



The Factorila is :120

Find addition of two given numbers using Servlets:

add.html

```
<html>
<body>
  <form method="GET" action="add">
    Enter A number:<br>
    <input type="text" name="t1"><br>
    Enter B number:<br>
    <input type="text" name="t2"><br>
    <input type="submit" value="Find Addition">
  </form>
</body>
</html>
```

AddServlet.java

```
package com.lbrce.it.helloname;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class AddServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int num1=Integer.parseInt(request.getParameter("t1"));
        int num2=Integer.parseInt(request.getParameter("t2"));
        int result=num1+num2;
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Addition is:"+result);
        }
    }
}
```

Ouput:

The image shows two screenshots of a web browser. The top screenshot shows the initial form at `localhost:8080/Helloname/add.html`. It contains two text input fields labeled "Enter A number:" and "Enter B number:". The first field contains the number "7" and the second field contains the number "8". Below these fields is a button labeled "Find Addition". The bottom screenshot shows the result of the form submission at `localhost:8080/Helloname/add?t1=7&t2=8`. The page displays the text "The Addition is:15".

Find the addition n given numbers using Servlets:

addn.html

```
<html>
```

```

<body>
  <form method="GET" action="addn">
    Enter A number:<br>
    <input type="text" name="t"><br>
    Enter B number:<br>
    <input type="text" name="t"><br>
    Enter C number:<br>
    <input type="text" name="t"><br>
    Enter D number:<br>
    <input type="text" name="t"><br>
    Enter E number:<br>
    <input type="text" name="t"><br>
    <input type="submit" value="Find Addition">
  </form>
</body>
</html>
AddnServlet.java
package com.lbrce.it.helloname;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class AddnServlet extends HttpServlet {
  @Override
  protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    response.setContentType("text/html");
    String inputs[]=request.getParameterValues("t");
    int sum=0;
    for(String x:inputs)
    {
      sum=sum+Integer.parseInt(x);
    }
    try(PrintWriter out=response.getWriter())
    {
      out.println("The Addition is:"+sum);
    }
  }
}

```

Output:

TODO supply a title

localhost:8080/Helloname/addn.html

Enter A number:
5

Enter B number:
10

Enter C number:
15

Enter D number:
20

Enter E number:
25

Find Addition

localhost:8080/Helloname/addn?t=5&t=10&t=15&t=20&t=25

The Addition is:75

Simple Calculator with basic Addition,Substraction,Multiplication,Division Using HttpServlet

cal.html

```
<html>
  <body>
    <form method="GET" action="cal">
      Enter A number<br>
      <input type="text" name="t1"><br>
      Enter B number<br>
      <input type="text" name="t2"><br>
      <input type="submit" name="op" value="+">
      <input type="submit" name="op" value="-">
      <input type="submit" name="op" value="*">
      <input type="submit" name="op" value="/">
    </form>
  </body>
</html>
```

CalServlet.java

```
package com.lbrce.it.lbrcehelloweb;
```

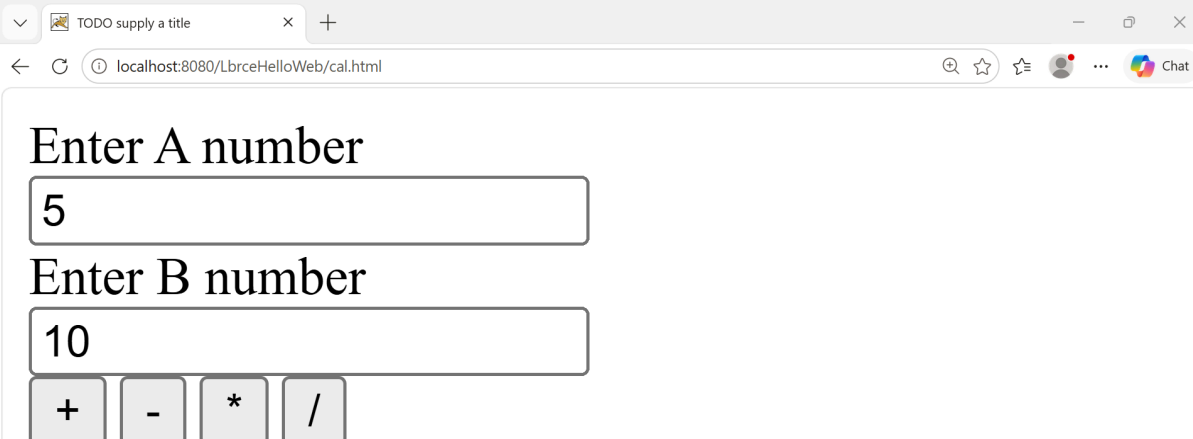
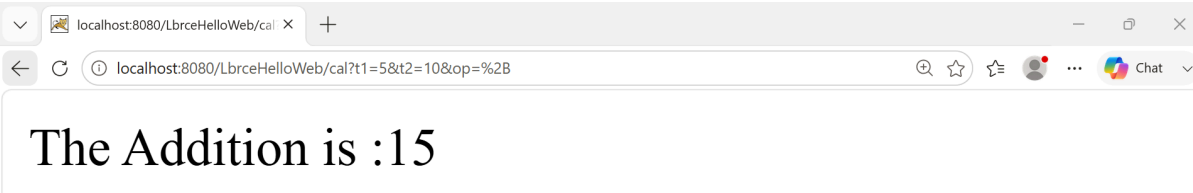
```
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class CalServlet extends HttpServlet {
  @Override
  protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    response.setContentType("text/html");
    int num1=Integer.parseInt(request.getParameter("t1"));
    int num2=Integer.parseInt(request.getParameter("t2"));
```

```

int result=0;
try(PrintWriter out=response.getWriter())
{
    if(request.getParameter("op").equals("+"))
    {
        result=num1+num2;
        out.println("The Addition is :"+result);
    }
    if(request.getParameter("op").equals("-"))
    {
        result=num1-num2;
        out.println("The Substraction is :"+result);
    }
    if(request.getParameter("op").equals("*"))
    {
        result=num1*num2;
        out.println("The Multiplication is :"+result);
    }
    if(request.getParameter("op").equals("/"))
    {
        result=num1/num2;
        out.println("The Division is :"+result);
    }
}
}
}
}

```

Output:

Enter A number

Enter B number

The Multiplication is :50

Week 6a) Develop a web application to perform below operations

- i) Find Factorial of given number
- ii) Find Reverse of given number
- iii) Find Armstrong of given number
- iv) Find the given number is palindrome or not

index.html

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Start Page</title>
```

```
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```
</head>
```

```
<body>
```

```
<form method="GET" action="fact">
```

```
<h6>Program to find Factorial of given number</h6>
```

```
Enter a number:<br>
```

```
<input type="text" name="t1"><br>
```

```
<input type="submit" value="Find Factorial">
```

```
</form>
```

```
<hr>
```

```
<form method="GET" action="reverse">
```

```
<h6>Program to find Reverse of given number</h6>
```

```
Enter a number:<br>
```

```
<input type="text" name="t2"><br>
```

```
<input type="submit" value="Find Reverse">
```

```
</form>
```

```
<hr>
```

```
<form method="GET" action="arm">
```

```
<h6>Program to find Armstrong of given number</h6>
```

```
Enter a number:<br>
```

```
<input type="text" name="t3"><br>
```

```
<input type="submit" value="Find Armstrong">
```

```
</form>
```

```

        <hr>
        <form method="GET" action="palin">
            <h6>Program to find Plaindrome of given number</h6>
            Enter a number:<br>
            <input type="text" name="t4"><br>
            <input type="submit" value="Find Plaindrome">
        </form>
    </body>
</html>

```

FactServlet.java

```

package com.lbrce.it.week6a;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class FactServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int num=Integer.parseInt(request.getParameter("t1"));
        int fact=1;
        for(int i=num;i>0;i--)
        {
            fact=fact*i;
        }
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Factorial is:"+fact);
        }
    }
}

```

ReverseServlet.java

```

package com.lbrce.it.week6a;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class ReverseServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int num=Integer.parseInt(request.getParameter("t2"));
        int temp=num;

```

```

        int digit=0,rev=0;
        while(num!=0)
        {
            digit=num%10;
            rev=rev*10+digit;
            num=num/10;
        }
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Reverse of"+temp+"is:"+rev);
        }
    }
}

```

ArmServlet.java

```
package com.lbrce.it.week6a;
```

```

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class ArmServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int num=Integer.parseInt(request.getParameter("t3"));
        int originalNum = num;
        int sum = 0;
        int digits = String.valueOf(num).length();
        while (num > 0) {
            int lastDigit = num % 10;          // Extract the last digit
            sum += Math.pow(lastDigit, digits); // Raise it to the power and add to sum
            num /= 10;                          // Remove the last digit
        }
        try(PrintWriter out=response.getWriter())
        {
            if(sum==originalNum)
            {
                out.println("The given number"+originalNum+"is Armstrong");
            }
            else
            {
                out.println("The given number"+originalNum+"is not Armstrong");
            }
        }
    }
}

```

PalinServlet.java

```
package com.lbrce.it.week6a;
```

```

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class PalinServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int num=Integer.parseInt(request.getParameter("t4"));
        int temp=num;
        int digit=0,sum=0;
        while(num!=0)
        {
            digit=num%10;
            sum=sum*10+digit;
            num=num/10;
        }
        try(PrintWriter out=response.getWriter())
        {
            if(temp==sum)
            {
                out.println("The given number"+temp+"is planidrome");
            }
            else
            {
                out.println("The given number"+temp+"is not planidrome");
            }
        }
    }
}

```

```

web.xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <servlet>
        <servlet-name>FactServlet</servlet-name>
        <servlet-class>com.lbrce.it.week6a.FactServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>ReverseServlet</servlet-name>
        <servlet-class>com.lbrce.it.week6a.ReverseServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>ArmServlet</servlet-name>
        <servlet-class>com.lbrce.it.week6a.ArmServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>PalinServlet</servlet-name>
        <servlet-class>com.lbrce.it.week6a.PalinServlet</servlet-class>

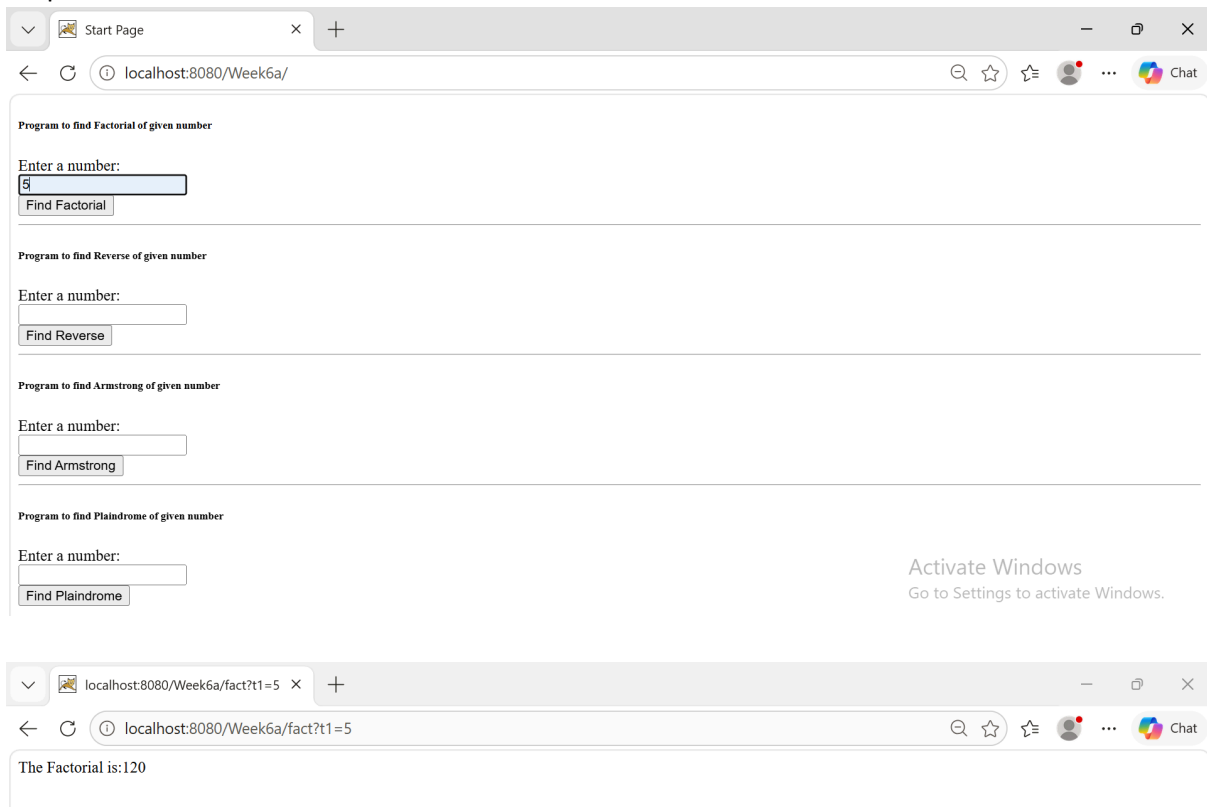
```

```

</servlet>
<servlet-mapping>
    <servlet-name>FactServlet</servlet-name>
    <url-pattern>/fact</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>ReverseServlet</servlet-name>
    <url-pattern>/reverse</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>ArmServlet</servlet-name>
    <url-pattern>/arm</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>PalinServlet</servlet-name>
    <url-pattern>/palin</url-pattern>
</servlet-mapping>
<session-config>
    <session-timeout>
        30
    </session-timeout>
</session-config>
</web-app>

```

Output:



The screenshot shows a web browser window with the address bar displaying 'localhost:8080/Week6a/'. The page contains four distinct sections, each with a title, an input field, and a button:

- Program to find Factorial of given number:** The input field contains the number '5', and the 'Find Factorial' button is visible.
- Program to find Reverse of given number:** The input field is empty, and the 'Find Reverse' button is visible.
- Program to find Armstrong of given number:** The input field is empty, and the 'Find Armstrong' button is visible.
- Program to find Plindrome of given number:** The input field is empty, and the 'Find Plindrome' button is visible.

An 'Activate Windows' watermark is present in the bottom right corner of the browser window.

A second browser window is shown below, with the address bar displaying 'localhost:8080/Week6a/fact?t1=5'. The page content displays the result: 'The Factorial is:120'.

Start Page

localhost:8080/Week6a/

Chat

Program to find Factorial of given number

Enter a number:

Find Factorial

Program to find Reverse of given number

Enter a number:

Find Reverse

Program to find Armstrong of given number

Enter a number:

Find Armstrong

Program to find Plindrome of given number

Enter a number:

Find Plindrome

Activate Windows
Go to Settings to activate Windows.

localhost:8080/Week6a/reverse?t2

localhost:8080/Week6a/reverse?t2=1234

Chat

The Reverse of 1234 is: 4321

Start Page

localhost:8080/Week6a/

Chat

Program to find Factorial of given number

Enter a number:

Find Factorial

Program to find Reverse of given number

Enter a number:

Find Reverse

Program to find Armstrong of given number

Enter a number:

Find Armstrong

Program to find Plindrome of given number

Enter a number:

Find Plindrome

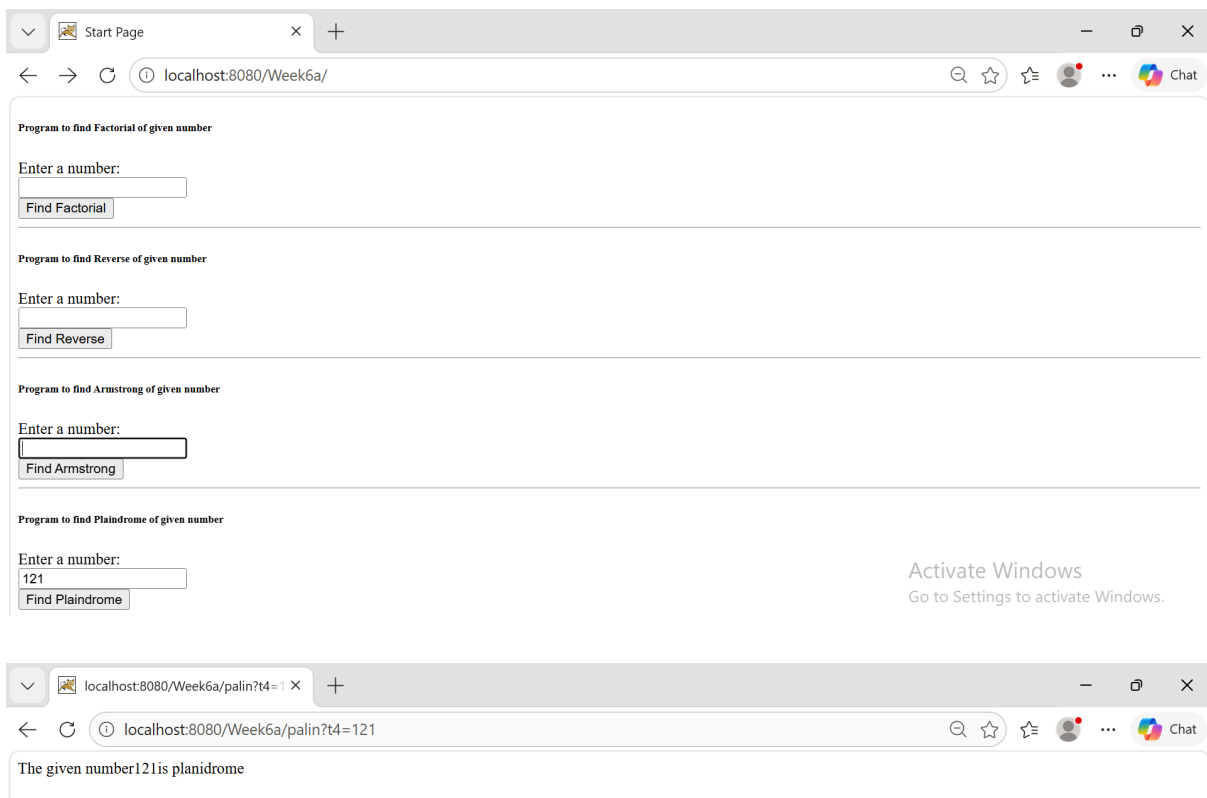
Activate Windows
Go to Settings to activate Windows.

localhost:8080/Week6a/arm?t3=153

localhost:8080/Week6a/arm?t3=153

Chat

The given number 153 is Armstrong



Display Languages know by user using HttpServlet

lang.html

```
<html>
```

```
  <body>
```

```
    <form method="GET" action="lang">
```

```
      Choose Language Known:<br>
```

```
      <input type="checkbox" name="lang" value="java">Java
```

```
      <input type="checkbox" name="lang" value="python">Python
```

```
      <input type="checkbox" name="lang" value="php">PHP
```

```
      <input type="checkbox" name="lang" value="React JS">React JS
```

```
      <input type="radio" name="lang" value="Java Script">Java Script
```

```
      <input type="submit" value="Send to Server">
```

```
    </body>
```

```
</html>
```

LangServlet.java

```
package com.lbrce.it.helloname;
```

```
import java.io.IOException;
```

```
import java.io.PrintWriter;
```

```
import jakarta.servlet.ServletException;
```

```
import jakarta.servlet.http.HttpServlet;
```

```
import jakarta.servlet.http.HttpServletRequest;
```

```
import jakarta.servlet.http.HttpServletResponse;
```

```
public class LangServlet extends HttpServlet {
```

@Override

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
```

```
    throws ServletException, IOException {
```

```
    response.setContentType("text/html");
```

```
    String inputs[]=request.getParameterValues("lang");
```

```
    String results="";
```

```
    try(PrintWriter out=response.getWriter())
```

```
    {
```

```
        if(inputs.equals(""))
```

```
        {
```

```
            out.println("You must select atleast one langugae");
```

```
        }
```

```
    else
```

```
    {
```

```
        for(String x:inputs)
```

```
        {
```

```
            results=results+","+x;
```

```
        }
```

```
        out.println("Your Selected languages are:"+results);
```

```
    }
```

```
}
```

```
}
```

```
}
```

```
}
```

```
}
```

Output:

The image shows two screenshots of a web browser. The top screenshot shows a form titled "Choose Language Known:" with five checkboxes: "Java" (checked), "Python" (checked), "PHP" (unchecked), "React JS" (checked), and "Java Script" (checked). Below the checkboxes is a button labeled "Send to Server". The bottom screenshot shows the result of the form submission: "Your Selected languages are: ,java,python,React JS,Java Script". The browser's address bar in the top screenshot shows "localhost:8080/Helloname/lang.html", and in the bottom screenshot, it shows "localhost:8080/Helloname/lang?lang=java&lang=python&lang=React+JS&lang=Java+Script".

Above Application using Radio Buttons using HttpServlet
lang.html

```
<html>
```

```
<body>
```

```
    <form method="POST" action="lang">
```

```
        Choose Language Known:<br>
```

```
        <input type="radio" name="lang" value="java">Java
```

```
        <input type="radio" name="lang" value="python">Python
```

```
        <input type="radio" name="lang" value="php">PHP
```

```

        <input type="radio" name="lang" value="React JS">React JS
        <input type="radio" name="lang" value="Java Script">Java Script
        <input type="submit" value="Send to Server">
    </body>
</html>
LangServlet.java

```

```
package com.lbrce.it.helloname;
```

```

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

```

```

public class LangServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        String inputs[]=request.getParameterValues("lang");
        String results="";
        try(PrintWriter out=response.getWriter())
        {
            if(inputs.equals(""))
            {
                out.println("You must select atleast one langugae");
            }
            else
            {
                for(String x:inputs)
                {
                    results=results+","+x;
                }
                out.println("Your Selected languages are:"+results);
            }
        }
    }
}

```

```

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        String input=request.getParameter("lang");
        try(PrintWriter out=response.getWriter())
        {
            out.println("Your selected language is"+input);
        }
    }
}

```

Output:

TODO supply a title

localhost:8080/Helloname/lang.html

Choose Language Known:

☒ Java ☐ Python ☐ PHP ☐ React JS ☐ Java Script

Send to Server

localhost:8080/Helloname/lang

Your selected language is java

TODO supply a title

localhost:8080/Helloname/lang.html

Choose Language Known:

☐ Java ☐ Python ☐ PHP ☒ React JS ☐ Java Script

Send to Server

localhost:8080/Helloname/lang

Your selected language is React JS

6 b) Develop an Online Quiz Examination using HttpServlet

```
<html>
<head>
  <title>TODO supply a title</title>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
  <form method="GET" action="quiz">
    Q1. What is full form of jdbc?<br>
    <input type="radio" name="q1" value="A">Java Database Communication
    <input type="radio" name="q1" value="B">Java Database Compiler
    <input type="radio" name="q1" value="C">Java Database Connectivity
    <input type="radio" name="q1" value="D">Java Database Computer
    <br>
    Q2. What is full form of HTML?<br>
    <input type="radio" name="q2" value="A">Hyper Text Markup Language
    <input type="radio" name="q2" value="B">Hyper Text Makeup Language
    <input type="radio" name="q2" value="C">Hyper Text Metal Language
    <input type="radio" name="q2" value="D">Hyper Text Moocs Language
    <br>
    Q3. What is full form of HTTP?<br>
```

```



```

QuizServlet.java

```

package com.lbrce.it.lbrcehelloweb;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class QuizServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        String correctAnswers[]={"C","A","D","B","A"};
        int score=0,i=0;
        try(PrintWriter out=response.getWriter())
        {
            for(String answer:correctAnswers)
            {
                if(answer.equals(request.getParameter("q"+(i+1))))
                {
                    score=score+1;
                    out.println("<p style='color:green;'><br>The Correct Answer is "+answer+"</p>");
                }
                else
                {
                    out.println("<p style='color:red;'><br>You put
answer\t"+request.getParameter("q"+(i+1))+""
                    + "\tWhich is In-Correct, rigth answer is:\t "+answer+"</p>");
                }
            }
            i++;
        }
    }
}

```

```

    }
    out.println("<br>Your Score is:"+score);
  }
}
}

```

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
  <servlet>
    <servlet-name>QuizServlet</servlet-name>
    <servlet-class>com.lbrce.it.lbrcehelloweb.QuizServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>QuizServlet</servlet-name>
    <url-pattern>/quiz</url-pattern>
  </servlet-mapping>
  <session-config>
    <session-timeout>
      30
    </session-timeout>
  </session-config>
</web-app>

```

Output:

Q1. What is full form of jdbc?

☐ Java Database Communication ☒ Java Database Compiler ☐ Java Database Connectivity ☐ Java Database Computer

Q2. What is full form of HTML?

☐ Hyper Text Markup Language ☒ Hyper Text Makeup Language ☐ Hyper Text Metal Language ☐ Hyper Text Moocs Language

Q3. What is full form of HTTP?

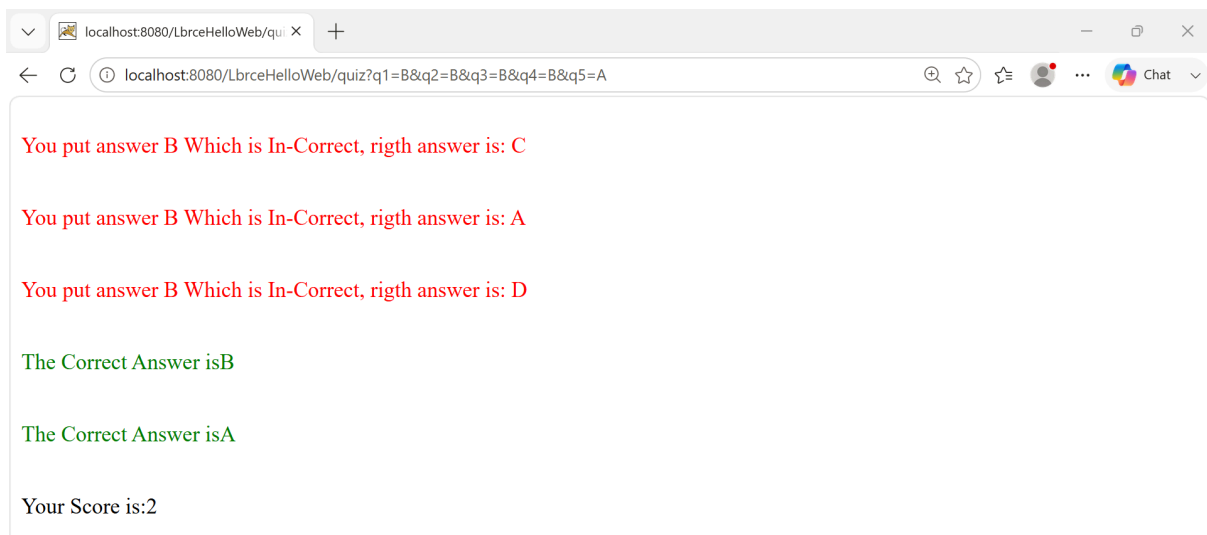
☐ Hyper Text Telemetry Protocol ☒ Hyper Text Transport Protocol ☐ Hyper Text TCP Protocol ☐ Hyper Text Transfer Protocol

Q4. What is full form of RS?

☐ RemoteSet ☒ ResultSet ☐ RecalSet ☐ ReduceSet

Q5. What is full form of PS?

☒ PreparedStatement ☐ PreparStatement ☐ PrincipleStatement ☐ ProcedureStatement



7 a) Login Authentication using HttpServlet

```
<html>
  <body>
    <h3>Login Here</h3>
    <form method="GET" action="login">
      <input type="radio" name="logintype" value="Student">Student
      <input type="radio" name="logintype" value="Faculty">Faculty
      <input type="radio" name="logintype" value="Admin">Administration
      <br>
      Username:
      <input type="text" name="t1"><br>
      Password:
      <input type="password" name="t2"><br>
      <input type="submit" value="Sign-In">
    </form>
  </body>
</html>
```

LoginServlet.java

```
package com.lbrce.it.lbrcehelloweb;
```

```
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
```

```
public class LoginServlet extends HttpServlet
{
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        String utype=request.getParameter("logintype");
```

```

String uname=request.getParameter("t1");
String upass=request.getParameter("t2");
String fusers[]={"Sarath","Ravindra"};
String fpass[]={"Sarath@123","Ravindra@123"};
String susers[]={"24761A1201","24761A1202"};
String spass[]={"24761A1201@123","24761A1202@123"};
String ausers[]={"admin1","admin2"};
String apass[]={"admin1@123","admin2@123"};
int i=0;boolean flag=false;
try(PrintWriter out=response.getWriter())
{
    if(utype.equals("Faculty"))
    {
        for(String x:fusers)
        {
            if(uname.equals(x) && fpass[i].equals(upass))
            {
                flag=true;
            }
            i++;
        }
        if(flag)
        {
            out.println("Welcome User"+uname);
        }
        else
        {
            out.println("In-Valid Username/password enterrd");
        }
    }
    if(utype.equals("Student"))
    {
        for(String x:susers)
        {
            if(uname.equals(x) && spass[i].equals(upass))
            {
                flag=true;
            }
            i++;
        }
        if(flag)
        {
            out.println("Welcome User"+uname);
        }
        else
        {
            out.println("In-Valid Username/password enterrd");
        }
    }
    if(utype.equals("Admin"))
    {
        for(String x:ausers)
        {
            if(uname.equals(x) && apass[i].equals(upass))
            {

```

```

        flag=true;
    }
    i++;
}
if(flag)
{
    out.println("Welcome User"+uname);
}
else
{
    out.println("In-Valid Username/password enterrd");
}
}
}
}
}
}
}

web.xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <servlet>
        <servlet-name>LoginServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.LoginServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>LoginServlet</servlet-name>
        <url-pattern>/login</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>

```

Output:

TODO supply a title

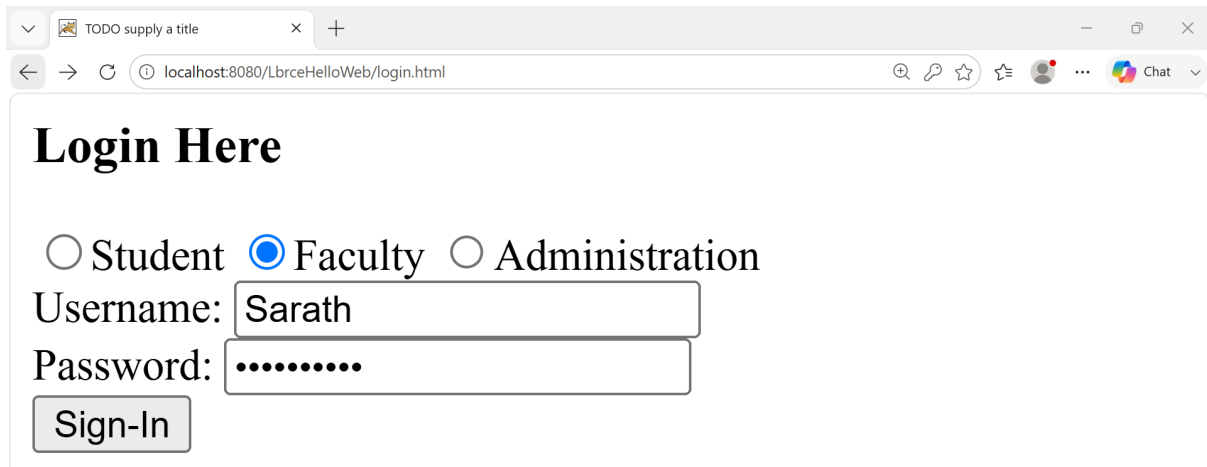
localhost:8080/LbrceHelloWeb/login.html

Login Here

☐ Student
 ☒ Faculty
 ☐ Administration

Username:

Password:



Sample Servlet Program to Test Database Connection to Mysql Server is success or not using HttpServlet

```
TestDBServlet.java
package com.lbrce.it.lbrcehelloweb;
import jakarta.servlet.ServletConfig;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class TestDBServlet extends HttpServlet {
    String db_url;
    String db_name;
    String db_pass;
    Connection con;
    @Override
    public void init(ServletConfig sc) throws ServletException
    {
        super.init(sc);
        db_url = sc.getInitParameter("url");
        db_name = sc.getInitParameter("name");
```

```

        db_pass = sc.getInitParameter("password");
    }
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        try(PrintWriter out=response.getWriter())
        {
            try{

                Class.forName("com.mysql.cj.jdbc.Driver");
                con=DriverManager.getConnection(db_url,db_name,db_pass);

                System.out.println("Connection Success.....");
            if(con!=null)
            {
                out.println("Connection Success.....");
            }
            }
            catch( ClassNotFoundException e){
                System.out.println(""+e);
            }
            catch(SQLException e){
                System.out.println(""+e);
            }
        }
    }
}

```

web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">

<servlet>
    <servlet-name>TestDBServlet</servlet-name>
    <servlet-class>com.lbrce.it.lbrcehelloweb.TestDBServlet</servlet-class>
    <init-param>
        <param-name>url</param-name>
        <param-value>jdbc:mysql://localhost:3306</param-value>
    </init-param>
    <init-param>
        <param-name>name</param-name>
        <param-value>root</param-value>
    </init-param>
    <init-param>
        <param-name>password</param-name>
        <param-value/>
    </init-param>
</servlet>
<servlet-mapping>
    <servlet-name>TestDBServlet</servlet-name>
    <url-pattern>/testdb</url-pattern>
</servlet-mapping>

```

</web-app>

Output:



******* 7 b) Develop Web Application to add Employee(empid, empname,empsal),Update,Delete,Read of Employee Table using JDBC(CallableStatement), HttpServlet (Upgradded Version.....)*******

-- Create Employee table

```
CREATE TABLE IF NOT EXISTS employee (  
    emp_id INT PRIMARY KEY,  
    name VARCHAR(100),  
    salary DOUBLE  
);
```

-- Stored Procedure to insert one record into employee table

```
DELIMITER //  
CREATE PROCEDURE insert_employee( IN p_emp_id INT, IN p_name VARCHAR(100),  
    IN p_salary DOUBLE)  
BEGIN  
    INSERT INTO employee (emp_id, name, salary) VALUES (p_emp_id, p_name, p_salary);  
END //  
DELIMITER ;
```

-- Stored Procedure to update record into employee table

```
DELIMITER //  
CREATE PROCEDURE update_employee( IN p_emp_id INT, IN p_name VARCHAR(100),  
    IN p_salary DOUBLE)  
BEGIN  
    UPDATE employee SET name=p_emp_name,salary=p_emp_sal WHERE emp_id=p_emp_id;  
END //  
DELIMITER ;
```

-- Stored Procedure to delete record into employee table

```
DELIMITER //  
CREATE PROCEDURE delete_employee( IN p_emp_id INT )  
BEGIN  
    DELETE FROM employee WHERE emp_id=p_emp_id;  
END //  
DELIMITER ;
```

-- Stored Procedure to read all employees records

```
DELIMITER //  
CREATE PROCEDURE read_all_employee()  
BEGIN  
    SELECT * FROM employee;  
END //  
DELIMITER ;
```

ReadAllEmployees.html

```
<!DOCTYPE html>
<html>
  <body>
    <form method="GET" action="readall">
      <input type="submit" value="Fetch All Employees">
    </form>
  </body>
</html>
```

ReadAllEmployees.java

```
package com.lbrce.it.lbrcehelloweb;
import jakarta.servlet.ServletConfig;
import jakarta.servlet.ServletContext;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class ReadAllEmployees extends HttpServlet {
    String db_url="";String db_name=""; String db_pass="";
    @Override
    public void init(ServletConfig sc)throws ServletException
    {

        db_url=sc.getInitParameter("url");
        db_name=sc.getInitParameter("name");
        db_pass=sc.getInitParameter("pass");
    }
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        try(PrintWriter out=response.getWriter())
        {
            try{
                //jdbc steps
                Class.forName("com.mysql.cj.jdbc.Driver");
                Connection con=DriverManager.getConnection(db_url,db_name,db_pass);
                if(con!=null)
                {
                    out.println("Connection Sucess.....");
                    CallableStatement cs=con.prepareCall("{call read_all_employees()}");
                    ResultSet rs=cs.executeQuery();
                    out.println("<table border='2' cellpadding='5' cellspacing='5'>");
                    out.println("<tr><td>Employee Id</td>");
                    out.println("<td>Employee Name</td>");
                    out.println("<td>Employee Salary</td>");
                    out.println("<td>Manage</td></tr>");
                }
            }
        }
    }
}
```

```

        int id=0;
        String name="";
        double sal=0.0;
        while(rs.next())
        {
            id=0;
            name="";
            sal=0.0;
            out.println("<tr>");
            out.println("<td>" + rs.getInt(1) + "</td>");
            id=rs.getInt(1);
            out.println("<td>" + rs.getString(2) + "</td>");
            name=rs.getString(2);
            out.println("<td>" + rs.getDouble(3) + "</td>");
            sal=rs.getDouble(3);
            System.out.println("Name:" + name + "\t" + "Salary:" + sal);
            out.println("<td><a
href='update1?empid="+id+"&empname="+name+"&empsal="+sal+"'>Edit</a>"
+ "<br><a href='deleteemp?empid="+id+"'>Delete</a></td>");
            out.println("</tr>");
        }
        out.println("</table>");
        out.println("<button><a href='AddEmployee.html'>Add Employee</button>");
    }
}
catch( ClassNotFoundException e){
    System.out.println(" "+e);
}
catch(SQLException e){
    System.out.println(" "+e);
}
}
}
}

```

AddEmployee.html

```

<html>
<body>
    <form method="GET" action="addemp">
        Enter Employee ID:
        <input type="text" name="t1"><br>

        Enter Employee Name:
        <input type="text" name="t2"><br>
        Enter Employee Salary:
        <input type="text" name="t3"><br>
        <input type="submit" value="Add Employee">
    </form>
</body>
</html>

```

AddEmployeeServlet.java

```

package com.lbrce.it.lbrcehelloweb;
import jakarta.servlet.ServletConfig;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class AddEmployeeServlet extends HttpServlet {
    String db_url="";String db_name=""; String db_pass="";
    @Override
    public void init(ServletConfig sc)throws ServletException
    {
        db_url=sc.getInitParameter("url");
        db_name=sc.getInitParameter("name");
        db_pass=sc.getInitParameter("pass");
    }
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        try(PrintWriter out=response.getWriter())
        {
            try{
                //jdbc steps
                Class.forName("com.mysql.cj.jdbc.Driver");
                Connection con=DriverManager.getConnection(db_url,db_name,db_pass);
                if(con!=null)
                {
                    out.println("Connection Sucess.....");
                    int empid=Integer.parseInt(request.getParameter("t1"));
                    String empname=request.getParameter("t2");
                    double empsal=Double.parseDouble(request.getParameter("t3"));
                    CallableStatement cs=con.prepareCall("{call insert_employee(?,?,?)}");
                    cs.setInt(1, empid);
                    cs.setString(2,empname);
                    cs.setDouble(3, empsal);
                    int count=cs.executeUpdate();
                    if(count>0){
                        out.println("Employeeeeee Addedd  sucessfully.....");
                        out.println("<a href='./readall'>View All EMPloyees</a>");
                    }
                }
            }
            catch( ClassNotFoundException e){
                System.out.println(""+e);
            }
            catch(SQLException e){
                System.out.println(""+e);
            }
        }
    }
}

```

```
}
```

update1.java

```
package com.lbrce.it.lbrcehelloweb;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class update1 extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        String empid=(String)request.getParameter("empid");
        String name=(String)request.getParameter("empname");
        String sal=(String)request.getParameter("empsal");
        System.out.println("Employee Id:"+empid);
        try(PrintWriter out=response.getWriter())
        {
            out.println("<html>");
            out.println("<body>");
            out.println("<form method='GET' action='updateemp'>");
            out.println("<input type='text' name='t1' value='"+empid+"'><br>");
            out.println("<input type='text' name='t2' value='"+name+"'><br>");
            out.println("<input type='text' name='t3' value='"+sal+"'><br>");
            out.println("<input type='submit' value='Update Employee'>");
            out.println("</form>");
            out.println("</body>");
            out.println("</html>");
        }
    }
}
```

UpdateEmployeeServlet.java

```
package com.lbrce.it.lbrcehelloweb;
import jakarta.servlet.ServletConfig;
import jakarta.servlet.ServletContext;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
```

```

public class UpdateEmployeeServlet extends HttpServlet {
    String db_url="";String db_name=""; String db_pass="";
    @Override
    public void init(ServletConfig sc)throws ServletException
    {

        db_url=sc.getInitParameter("url");
        db_name=sc.getInitParameter("name");
        db_pass=sc.getInitParameter("pass");
    }
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");

        try(PrintWriter out=response.getWriter())
        {
            try{
                //jdbc steps
                Class.forName("com.mysql.cj.jdbc.Driver");
                Connection con=DriverManager.getConnection(db_url,db_name,db_pass);
                if(con!=null)
                {
                    out.println("Connection Sucess.....");
                    int empid=Integer.parseInt(request.getParameter("t1"));
                    String name=request.getParameter("t2");
                    double sal=Double.parseDouble(request.getParameter("t3"));
                    CallableStatement cs=con.prepareCall("{call update_employee(?,?,?)}");
                    cs.setInt(1, empid);
                    cs.setString(2,name);
                    cs.setDouble(3, sal);
                    int count=cs.executeUpdate();
                    if(count>0){
                        out.println("Employeeeeee details are Updated sucessfully.....");
                        out.println("<a href='./readall'>View All EMployees</a>");
                    }
                }
            }
            catch( ClassNotFoundException e){
                System.out.println(""+e);
            }
            catch(SQLException e){
                System.out.println(""+e);
            }
        }
    }
}

```

DeleteEmployeeServlet.java

```

package com.lbrce.it.lbrcehelloweb;
import jakarta.servlet.ServletConfig;

```

```

import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class DeleteEmployeeServlet extends HttpServlet {
    String db_url="";String db_name=""; String db_pass="";
    @Override
    public void init(ServletConfig sc)throws ServletException
    {
        db_url=sc.getInitParameter("url");
        db_name=sc.getInitParameter("name");
        db_pass=sc.getInitParameter("pass");
    }
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int empid=(int)Integer.parseInt(request.getParameter("empid"));
        try(PrintWriter out=response.getWriter())
        {
            try{
                //jdbc steps
                Class.forName("com.mysql.cj.jdbc.Driver");
                Connection con=DriverManager.getConnection(db_url,db_name,db_pass);
                if(con!=null)
                {
                    out.println("Connection Sucess.....");
                    CallableStatement cs=con.prepareCall("{call delete_employee(?)}");
                    cs.setInt(1, (int)empid);
                    int count=cs.executeUpdate();
                    if(count>0){
                        out.println("Employeeeeee details are deleted sucessfully.....");
                        out.println("<a href='./readall'>View All EMPloyees</a>");
                    }
                }
            }
            catch( ClassNotFoundException e){
                System.out.println(""+e);
            }
            catch(SQLException e){
                System.out.println(""+e);
            }
        }
    }
}

```

Web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

```

xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">

```
<servlet>
  <servlet-name>AddEmployeeServlet</servlet-name>
  <servlet-class>com.lbrce.it.lbrcehelloweb.AddEmployeeServlet</servlet-class>
  <init-param>
    <param-name>url</param-name>
    <param-value>jdbc:mysql://localhost:3306/24batchiiibsec</param-value>
  </init-param>
  <init-param>
    <param-name>name</param-name>
    <param-value>root</param-value>
  </init-param>
  <init-param>
    <param-name>pass</param-name>
    <param-value/>
  </init-param>
</servlet>
<servlet>
  <servlet-name>UpdateEmployeeServlet</servlet-name>
  <servlet-class>com.lbrce.it.lbrcehelloweb.UpdateEmployeeServlet</servlet-class>
  <init-param>
    <param-name>url</param-name>
    <param-value>jdbc:mysql://localhost:3306/24batchiiibsec</param-value>
  </init-param>
  <init-param>
    <param-name>name</param-name>
    <param-value>root</param-value>
  </init-param>
  <init-param>
    <param-name>pass</param-name>
    <param-value/>
  </init-param>
</servlet>
<servlet>
  <servlet-name>DeleteEmployeeServlet</servlet-name>
  <servlet-class>com.lbrce.it.lbrcehelloweb.DeleteEmployeeServlet</servlet-class>
  <init-param>
    <param-name>url</param-name>
    <param-value>jdbc:mysql://localhost:3306/24batchiiibsec</param-value>
  </init-param>
  <init-param>
    <param-name>name</param-name>
    <param-value>root</param-value>
  </init-param>
  <init-param>
    <param-name>pass</param-name>
    <param-value/>
  </init-param>
</servlet>
<servlet>
  <servlet-name>ReadAllEmployees</servlet-name>
  <servlet-class>com.lbrce.it.lbrcehelloweb.ReadAllEmployees</servlet-class>
  <init-param>
```

```

        <param-name>url</param-name>
        <param-value>jdbc:mysql://localhost:3306/24batchiiibsec</param-value>
    </init-param>
    <init-param>
        <param-name>name</param-name>
        <param-value>root</param-value>
    </init-param>
    <init-param>
        <param-name>pass</param-name>
        <param-value/>
    </init-param>
</servlet>
<servlet>
    <servlet-name>update1</servlet-name>
    <servlet-class>com.lbrce.it.lbrcehelloweb.update1</servlet-class>
</servlet>
<servlet-mapping>
    <servlet-name>HelloServlet</servlet-name>
    <url-pattern>/helllo</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>AddEmployeeServlet</servlet-name>
    <url-pattern>/addemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>UpdateEmployeeServlet</servlet-name>
    <url-pattern>/updateemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>DeleteEmployeeServlet</servlet-name>
    <url-pattern>/deleteemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>ReadAllEmployees</servlet-name>
    <url-pattern>/readall</url-pattern>
</servlet-mapping>
<servlet-mapping>
    <servlet-name>update1</servlet-name>
    <url-pattern>/update1</url-pattern>
</servlet-mapping>
<session-config>
    <session-timeout>
        30
    </session-timeout>
</session-config>
</web-app>

```

Output:



localhost:8080/LbrceHelloWeb/readall?

Connection Sucess.....

Employee Id	Employee Name	Employee Salary	Manage
1001	M Rakesh	80000.0	Edit/ Delete
1002	B Kiran Kumar	90000.0	Edit/ Delete
1004	B Sarath Chandra	100000.0	Edit/ Delete
1005	B Ravindra Chanti	60000.0	Edit/ Delete
1007	K Satish Kumar	200000.0	Edit/ Delete

[Add Employee](#)

Activate Windows
Go to Settings to activate Windows

TODO supply a title

localhost:8080/LbrceHelloWeb/AddEmployee.html

Enter Employee ID:

Enter Employee Name:

Enter Employee Salary:

localhost:8080/LbrceHelloWeb/add

localhost:8080/LbrceHelloWeb/addemp?t1=1008&t2=Vijay+&t3=200000

Connection Sucess..... Employeeeeee Addedd sucessfully..... [View All Employees](#)

localhost:8080/LbrceHelloWeb/readall

Connection Sucess.....

Employee Id	Employee Name	Employee Salary	Manage
1001	M Rakesh	80000.0	Edit/ Delete
1002	B Kiran Kumar	90000.0	Edit/ Delete
1004	B Sarath Chandra	100000.0	Edit/ Delete
1005	B Ravindra Chanti	60000.0	Edit/ Delete
1007	K Satish Kumar	200000.0	Edit/ Delete
1008	Vijay	200000.0	Edit/ Delete

[Add Employee](#)

Activate Windows

localhost:8080/LbrceHelloWeb/up: x lbrce.ac.in/it/itfaculty.php x +

localhost:8080/LbrceHelloWeb/update1?empid=1008

1008
M Vijay Kumar
250000
Update Employee

localhost:8080/LbrceHelloWeb/up: x +

localhost:8080/LbrceHelloWeb/update1?empid=1004&empname=B%20Sarath%20Chandra&empsal=200000.0

1004
B Sarath Chandra
300000.0
Update Employee

localhost:8080/LbrceHelloWeb/up: x lbrce.ac.in/it/itfaculty.php x +

localhost:8080/LbrceHelloWeb/updateemp?t1=1008&t2=M+Vijay+Kumar&t3=250000

Connection Sucess..... Employeeeeee details are Updated sucessfully..... [View All EMPloyees](#)

localhost:8080/LbrceHelloWeb/re: x +

localhost:8080/LbrceHelloWeb/readall

Connection Sucess.....

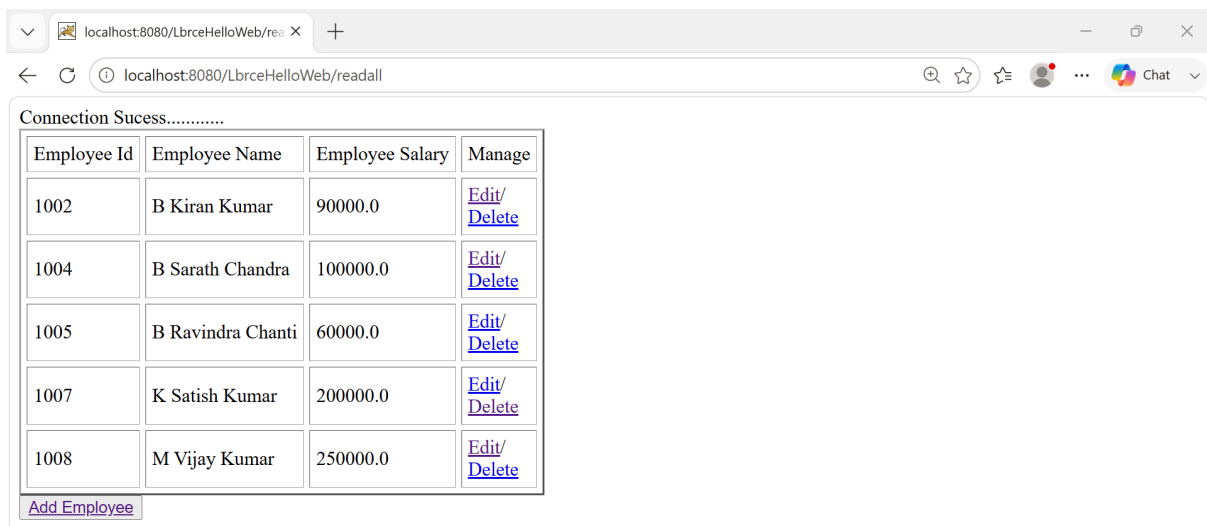
Employee Id	Employee Name	Employee Salary	Manage
1002	B Kiran Kumar	200000.0	Edit/ Delete
1004	B Sarath Chandra	300000.0	Edit/ Delete
1007	K Satish Kumar	200000.0	Edit/ Delete
1010	G Rajendra	200000.0	Edit/ Delete

[Add Employee](#)

localhost:8080/LbrceHelloWeb/de: x +

localhost:8080/LbrceHelloWeb/deleteemp?empid=1001

Connection Sucess..... Employeeeeee details are deleted sucessfully..... [View All EMPloyees](#)



Develop a web application to find factorial of given number using RequestDispatcher(forward) and HttpServlet

fact.html

```
<html>
  <body>
    <form method="GET" action="fact">
      Enter a number:<br>
      <input type="text" name="t1"><br>
      <input type="submit" value="Find Factorial">
    </form>
  </body>
</html>
```

Develop a web application to find factorial of given number using RequestDispatcher(include) and HttpServlet

fact.html

```
<html>
  <body>
    <form method="GET" action="fact">
      Enter a number:<br>
      <input type="text" name="t1"><br>
      <input type="submit" value="Find Factorial">
    </form>
  </body>
</html>
```

FactServlet.java

```
package com.lbrce.it.lbrcehelloweb;

import jakarta.servlet.RequestDispatcher;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
```

```

import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
public class FactServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int number=Integer.parseInt(request.getParameter("t1"));
        int fact=1;
        for(int i=number;i>0;i--)
        {
            fact=fact*i;
        }
        request.setAttribute("results",""+fact);
        RequestDispatcher rd=request.getRequestDispatcher("/display");
        rd.forward(request, response);
    }
}

```

DisplayServlet.java

```

package com.lbrce.it.lbrcehelloweb;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class DisplayServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        String result=(String)request.getAttribute("results");
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Factorial is :"+result);
        }
    }
}

```

Web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <servlet>
        <servlet-name>FactServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.FactServlet</servlet-class>
    </servlet>
</web-app>

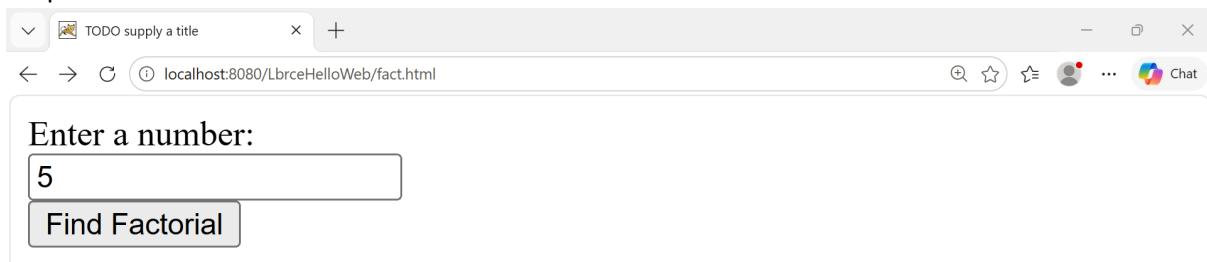
```

```

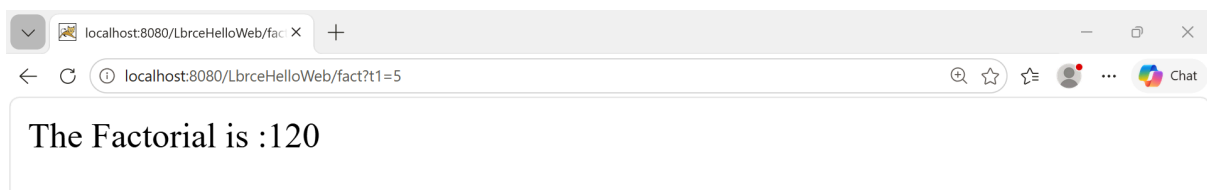
        <servlet-name>DisplayServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloworld.DisplayServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>FactServlet</servlet-name>
        <url-pattern>/fact</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
        <servlet-name>DisplayServlet</servlet-name>
        <url-pattern>/display</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>

```

Output:



A screenshot of a web browser window. The address bar shows 'localhost:8080/LbrceHelloWeb/fact.html'. The page content includes a label 'Enter a number:', a text input field containing the number '5', and a button labeled 'Find Factorial'.



A screenshot of a web browser window. The address bar shows 'localhost:8080/LbrceHelloWeb/fact?t1=5'. The page content displays the text 'The Factorial is :120'.

```
package com.lbrce.it.helloname;
```

```

import jakarta.servlet.RequestDispatcher;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

```

```

public class FactServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        int number=Integer.parseInt(request.getParameter("t1"));
        request.setAttribute("key",""+number);
        RequestDispatcher rd=request.getRequestDispatcher("display");
        rd.forward(request,response);
        RequestDispatcher rd1=request.getRequestDispatcher("display");

```

```

        rd1.include(request,response);
    }

}

```

DisplayServlet.java

```

package com.lbrce.it.helloname;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class DisplayServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        String num=(String)request.getAttribute("key");
        int number=Integer.parseInt(num);
        int fact=1;
        for(int i=number;i>0;i--)
        {
            fact=fact*i;
        }
        try(PrintWriter out=response.getWriter())
        {
            out.println("The Factpriol is :"+fact);
        }
    }
}

```

Web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <servlet>
        <servlet-name>FactServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.FactServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>DisplayServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.DisplayServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>FactServlet</servlet-name>
        <url-pattern>/fact</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
        <servlet-name>DisplayServlet</servlet-name>
        <url-pattern>/display</url-pattern>
    </servlet-mapping>
</web-app>

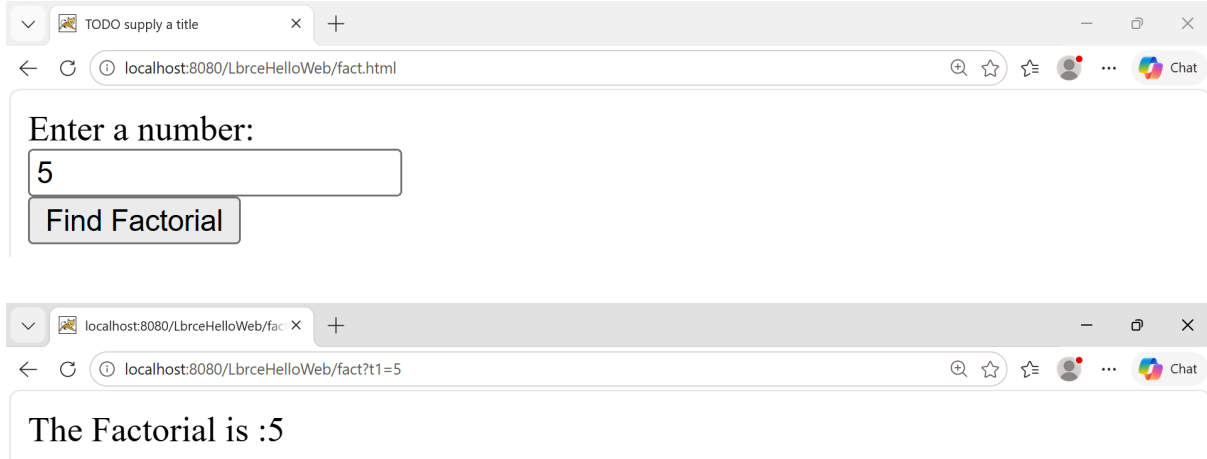
```

```

</servlet-mapping>
<session-config>
    <session-timeout>
        30
    </session-timeout>
</session-config>
</web-app>

```

Output:



8a) Develop a Login Web Application and authentication username and password of an user(Student, Faculty, & Administrator) using Java Arrays and demonstrate use of Cookies.

login.html

```

<html>
<body>
    <h3>Login Here</h3>
    <form method="GET" action="login">
        <input type="radio" name="logintype" value="Student">Student
        <input type="radio" name="logintype" value="Faculty">Faculty
        <input type="radio" name="logintype" value="Admin">Administration
        <br>
        Username:
        <input type="text" name="t1"><br>
        Password:
        <input type="password" name="t2"><br>
        <input type="submit" value="Sign-In">
    </form>
</body>
</html>

```

LoginServlet.java

```

package com.lbrce.it.lbrcehelloweb;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;

```

```

import jakarta.servlet.http.Cookie;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

public class LoginServlet extends HttpServlet
{
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");

        String utype=request.getParameter("logintype");

        String uname=request.getParameter("t1");
        String upass=request.getParameter("t2");

        String fusers[]={"Sarath","Ravindra"};
        String fpass[]={"Sarath@123","Ravindra@123"};

        String susers[]={"24761A1201","24761A1202"};
        String spass[]={"24761A1201@123","24761A1202@123"};

        String ausers[]={"admin1","admin2"};
        String apass[]={"admin1@123","admin2@123"};

        int i=0;boolean flag=false;
        try(PrintWriter out=response.getWriter())
        {
            if(utype.equals("Faculty"))
            {
                for(String x:fusers)
                {
                    if(uname.equals(x) && fpass[i].equals(upass))
                    {
                        flag=true;
                    }
                    i++;
                }
                if(flag)
                {
                    Cookie c=new Cookie("username",uname); //Cookie Creation
                    c.setMaxAge(60); //Cookie Alive in Client Browser
                    response.addCookie(c); //Send Cookie to Client Browser

                    out.println("Welcome User"+uname);
                    out.println("<a href='FacultyDashboard'>Click here to go for Dashboard</a>");

                }
                else
                {
                    out.println("In-Valid Username/password entered");
                }
            }
            if(utype.equals("Student"))

```

```

{
    for(String x:susers)
    {
        if(uname.equals(x) && spass[i].equals(upass))
        {
            flag=true;
        }
        i++;
    }
    if(flag)
    {
        Cookie c=new Cookie("username",uname); //Cookie Creation
        c.setMaxAge(60); //Cookie Alive in Clent Browser
        response.addCookie(c); //Send Cookie to Client Browser

        out.println("Welcome User"+uname);
        out.println("<a href='FacultyDashboard'>Click here to go for Dashboard</a>");

    }
    else
    {
        out.println("In-Valid Username/password enterrd");
    }
}
if(utype.equals("Admin"))
{
    for(String x:ausers)
    {
        if(uname.equals(x) && apass[i].equals(upass))
        {
            flag=true;
        }
        i++;
    }
    if(flag)
    {
        Cookie c=new Cookie("username",uname); //Cookie Creation
        c.setMaxAge(60); //Cookie Alive in Clent Browser
        response.addCookie(c); //Send Cookie to Client Browser

        out.println("Welcome User"+uname);
        out.println("<a href='FacultyDashboard'>Click here to go for Dashboard</a>");
    }
    else
    {
        out.println("In-Valid Username/password enterrd");
    }
}
}
}
}

```

```
package com.lbrce.it.lbrcehelloweb;
```

```
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.Cookie;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
```

```
public class FacultyDashboard extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        try(PrintWriter out=response.getWriter())
        {
            Cookie[] cookies = request.getCookies(); //Read all Cookies from Client Browsers

            String username = null;

            if (cookies != null)
            {
                //Verify each Cookie with their Cookie Name
                for (Cookie x : cookies)
                {
                    if (x.getName().equals("username")) {

                        username = x.getValue(); //Store Cookie Value of user
                    }
                }
            }

            if (username != null)
            {
                //Allow User to Dashborad Page if user information in Cookie Variable
                out.println("<h2>Welcome " + username + "to the Dashboard Page</h2>");
            }
            else
            {
                //Dont allow User to Dashborad Page if user has not information in Cookie Variable
                out.println("<h2>Cookie Expired</h2>");
                out.println("<a href='login.html'>Login Again</a>");
            }
        }
    }
}
```

```
web.xml
```

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

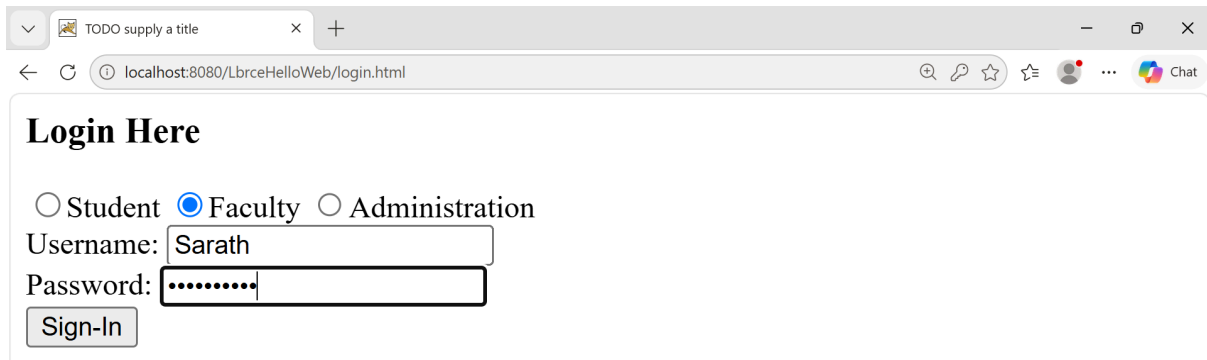
```

xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <servlet>
        <servlet-name>LoginServlet</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.LoginServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>FacultyDashboard</servlet-name>
        <servlet-class>com.lbrce.it.lbrcehelloweb.FacultyDashboard</servlet-class>
    </servlet>

    <servlet-mapping>
        <servlet-name>LoginServlet</servlet-name>
        <url-pattern>/login</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
        <servlet-name>FacultyDashboard</servlet-name>
        <url-pattern>/FacultyDashboard</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>

```

Output:



TODO supply a title

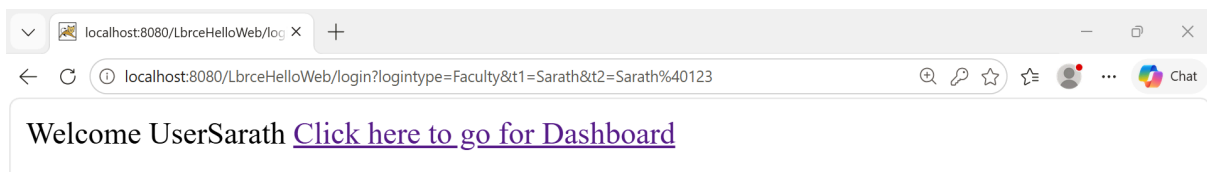
localhost:8080/LbrceHelloWeb/login.html

Login Here

☐ Student
 ☒ Faculty
 ☐ Administration

Username:

Password:



localhost:8080/LbrceHelloWeb/login?logintype=Faculty&t1=Sarath&t2=Sarath%40123

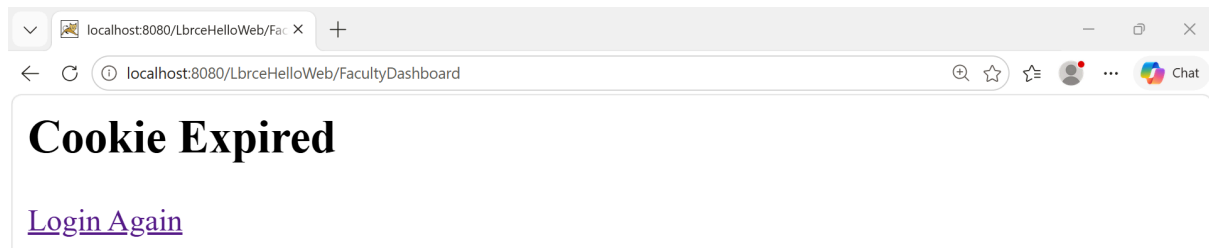
Welcome UserSarath [Click here to go for Dashboard](#)



localhost:8080/LbrceHelloWeb/FacultyDashboard

Welcome Sarath@123to the Dashboard Page

After 1 minute Cookie Expired.....



8a) Develop a web application for Employee and Administrator which has following activities

- i) Admin can read , add , update & delete employee in an organization**
- ii)Employee can read his profile and update the profile**
- iii)Implement above with HttpSession for both employee and administrator.**

-- Create Employee table

```
CREATE TABLE IF NOT EXISTS employee (  
    emp_id INT PRIMARY KEY,  
    emp_name VARCHAR(100),  
    salary DOUBLE,  
    emp_pass VARCHAR(10)  
);
```

-- Stored Procedure to insert one record into employee table

```
DELIMITER //  
CREATE PROCEDURE insert_employee( IN p_emp_id INT, IN p_name VARCHAR(100),  
    IN p_salary DOUBLE, p_pass VARCHAR(10))  
BEGIN  
    INSERT INTO employee (emp_id, emp_name, salary, emp_pass) VALUES (p_emp_id, p_name,  
p_salary,p_pass);  
END //  
DELIMITER ;
```

-- Stored Procedure to update record into employee table

```
DELIMITER //  
CREATE PROCEDURE update_employee( IN p_emp_id INT, IN p_name VARCHAR(100),  
    IN p_salary DOUBLE)  
BEGIN  
    UPDATE employee SET emp_name=p_emp_name,salary=p_emp_sal WHERE emp_id=p_emp_id;  
END //  
DELIMITER ;
```

-- Stored Procedure to delete record into employee table

```
DELIMITER //  
CREATE PROCEDURE delete_employee( IN p_emp_id INT )  
BEGIN  
    DELETE FROM employee WHERE emp_id=p_emp_id;  
END //  
DELIMITER ;
```

-- Stored Procedure to read all employees records

```
DELIMITER //
```

```

CREATE PROCEDURE read_all_employee()
BEGIN
    SELECT * FROM employee;
END //
DELIMITER ;

-- Stored Procedure to read an employee record
DELIMITER //
CREATE PROCEDURE read_employee(IN p_emp_id INT)
BEGIN
    SELECT emp_id, emp_name, salary
    FROM employee
    WHERE emp_id = p_emp_id;
END //
DELIMITER ;

-- Stored Procedure to read specific employee record
DELIMITER //
CREATE PROCEDURE employee_login(IN p_emp_id INT)
BEGIN

    SELECT emp_id,
           emp_name,
           salary
    FROM employee
    WHERE emp_id = p_emp_id
    AND emp_pass = p_emp_pass;
END //
DELIMITER ;

```

```

login.html
<!DOCTYPE html>
<html>
  <body>
    <h2>Employee Management System</h2>
    <form method="POST" action="login">
      Username:
      <input type="text" name="username" required>
      <br><br>
      Password:
      <input type="password" name="password" required>
      <br><br>
      <input type="submit" value="Login">
    </form>
  </body>
</html>

```

```

LoginServlet.java
package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;

```

```

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.CallableStatement;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;

public class LoginServlet extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        String username = request.getParameter("username");
        String password = request.getParameter("password");
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        if ("admin".equals(username) && "1234".equals(password)) {
            HttpSession session = request.getSession();
            session.setAttribute("username", "admin");
            session.setAttribute("role", "admin");
            response.sendRedirect(request.getContextPath()+ "/readall");
            return;
        }
        int empId;
        try {
            empId = Integer.parseInt(username);
        }
        catch (NumberFormatException e) {
            showLoginError(out, "Invalid Employee ID or Password");
            return;
        }
        String url = getServletContext().getInitParameter("url");
        String dbName = getServletContext().getInitParameter("name");
        String dbPass = getServletContext().getInitParameter("pass");
        try {
            // Load MySQL JDBC Driver
            Class.forName("com.mysql.cj.jdbc.Driver");
            // Database connection
            Connection con = DriverManager.getConnection(url, dbName, dbPass);
            // Call employee_login stored procedure
            CallableStatement cs = con.prepareCall("{call employee_login(?,?)}");
            cs.setInt(1, empId);
            cs.setString(2, password);
            // Execute procedure
            ResultSet rs = cs.executeQuery();
            if (rs.next())
            {
                String empName = rs.getString("emp_name");
                HttpSession session = request.getSession();
                // Store employee details in session
                session.setAttribute("username", empName);
                session.setAttribute("role", "employee");
                session.setAttribute("empid", empId);
                // Go to employee dashboard
                response.sendRedirect(request.getContextPath()+ "/readall");
            }
        }
    }
}

```

```

    }
    else
    {
        // Invalid employee credentials
        showLoginError(out,"Invalid Employee ID or Password");
    }
    rs.close();
    cs.close();
    con.close();
}
catch (Exception e) {
    out.println("<html>");
    out.println("<body>");
    out.println("<h2>Database Error</h2>");
    out.println("<p>" + e.getMessage() + "</p>");
    out.println("<br>");
    out.println(" <a href='login.html'>Back to Login</a>");
    out.println("</body>");
    out.println("</html>");
}
}
private void showLoginError(PrintWriter out,String message) {
    out.println("<html>");
    out.println("<head>");
    out.println("<title>Login Failed</title>");
    out.println("</head>");
    out.println("<body>");
    out.println("<h2>Login Failed</h2>");
    out.println("<p>" + message + "</p>");
    out.println("<br>");
    out.println("<a href='login.html'>Back to Login</a>");
    out.println("</body>");
    out.println("</html>");
}
}
}

```

ReadAllEmployees.java

```

package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletContext;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.CallableStatement;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;

public class ReadAllEmployees extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request,HttpServletResponse response)

```

throws ServletException, IOException {

```
response.setContentType("text/html");
PrintWriter out = response.getWriter();
HttpSession session = request.getSession(false);
String username =(String) session.getAttribute("username");
String role =(String) session.getAttribute("role");
out.println("<html>");
out.println("<head>");
out.println("<title>Employee Dashboard</title>");
out.println("</head>");
out.println("<body>");
out.println("<h2>Employee Management Dashboard</h2>");
out.println("<h3>Welcome : "+ username+ "</h3>");
out.println("<h3>Role : "+ role + "</h3>");
if ("admin".equals(role)) {
    out.println("<a href='addemp'>Add Employee</a>");
    out.println("&nbsp;&nbsp;&nbsp;");
    out.println("<a href='logout'>Logout</a>");
    out.println("<br><br>");
    out.println("<h3>All Employees</h3>");
    out.println("<table border='1' "
        + "cellpadding='10' "
        + "cellspacing='0'>");
    out.println("<tr>");
    out.println("<th>Employee ID</th>");
    out.println("<th>Employee Name</th>");
    out.println("<th>Salary</th>");
    out.println("<th>Edit</th>");
    out.println("<th>Delete</th>");
    out.println("</tr>");
    try {
        ServletContext sc = getServletContext();
        String db_url = sc.getInitParameter("url");
        String db_name = sc.getInitParameter("name");
        String db_pass =sc.getInitParameter("pass");
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection con =DriverManager.getConnection(db_url,db_name,db_pass);
        CallableStatement cs =con.prepareCall("{call read_all_employees()}");
        ResultSet rs = cs.executeQuery();
        while (rs.next()) {
            int id =rs.getInt("emp_id");
            String name =rs.getString("emp_name");
            double salary =rs.getDouble("salary");
            out.println("<tr>");
            out.println("<td>" + id + "</td>");
            out.println("<td>" + name + "</td>");
            out.println("<td>" + salary + "</td>");
            // EDIT
            out.println("<td>");
            out.println("<a href='update1?empid="+ id+ "'>Edit</a>");
            out.println("</td>");
            // DELETE
            out.println("<td>");
            out.println("<a href='deleteemp?empid="+ id+ "'>");
```

```

        "onclick=\"return confirm('"+ "Are you sure?"+")\">Delete</a>");
        out.println("</td>");
        out.println("</tr>");
    }
    rs.close();
    cs.close();
    con.close();
} catch (Exception e) {
    out.println("<tr><td colspan='5'>");
    out.println("Error : "+ e.getMessage());
    out.println("</td></tr>");
}
out.println("</table>");
}
// =====
// EMPLOYEE
// =====

else if ("employee".equals(role)) {
    int empid =(Integer) session.getAttribute("empid");
    out.println("<a href='logout'>Logout</a>");
    out.println("<br><br>");
    out.println("<h3>My Employee Profile</h3>");
    out.println("<table border='1'"+ "cellpadding='10' "+ "cellspacing='0'>");
    out.println("<tr>");
    out.println("<th>Employee ID</th>");
    out.println("<th>Employee Name</th>");
    out.println("<th>Salary</th>");
    out.println("<th>Edit</th>");
    out.println("</tr>");
    try {
        ServletContext sc =getServletContext();
        String db_url =sc.getInitParameter("url");
        String db_name =sc.getInitParameter("name");
        String db_pass =sc.getInitParameter("pass");
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection con =DriverManager.getConnection(db_url,db_name,db_pass);
        CallableStatement cs =con.prepareCall("{call read_employee(?)}");
        cs.setInt(1, empid);
        ResultSet rs =cs.executeQuery();
        if (rs.next()) {
            int id =rs.getInt("emp_id");
            String name = rs.getString("emp_name");
            double salary =rs.getDouble("salary");
            out.println("<tr>");
            out.println("<td>" + id + "</td>");
            out.println("<td>" + name + "</td>");
            out.println("<td>" + salary + "</td>");
            // EMPLOYEE CAN EDIT
            out.println("<td>");
            out.println("<a href='update1?empid="+ id + "'>Edit</a>");
            out.println("</td>");
            out.println("</tr>");
        } else {
            out.println("<tr><td colspan='4'>");

```

```

        out.println("Employee record not found");
        out.println("</td></tr>");
    }
    rs.close();
    cs.close();
    con.close();
} catch (Exception e) {
    out.println("tr><td colspan='4'>");
    out.println("Error : "+ e.getMessage());
    out.println("</td></tr>");
}
    out.println("</table>");
}
    out.println("</body>");
    out.println("</html>");
}
}

```

Update1Servlet.java

```

package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletContext;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;

public class Update1Servlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        HttpSession session = request.getSession(false);
        if (session == null) {
            response.sendRedirect(request.getContextPath() + "/login.html");
            return;
        }
        String role =(String) session.getAttribute("role");
        String empidParameter = request.getParameter("empid");
        int empid;
        try {
            empid =Integer.parseInt(empidParameter);
        } catch (Exception e) {
            response.sendRedirect(request.getContextPath() + "/readall");
            return;
        }
        if ("employee".equals(role)) {

```

```

Integer sessionEmpId =(Integer) session.getAttribute("empid");
if (sessionEmpId == null || sessionEmpId != empid) {
    response.sendRedirect(request.getContextPath()+ "/readall");
    return;
}
}
try {
    ServletContext sc =getServletContext();
    String db_url = sc.getInitParameter("url");
    String db_name = sc.getInitParameter("name");
    String db_pass = sc.getInitParameter("pass");
    Class.forName("com.mysql.cj.jdbc.Driver");
    Connection con =DriverManager.getConnection(db_url,db_name,db_pass);
    // GET EMPLOYEE DETAILS
    PreparedStatement ps = con.prepareStatement(
        "SELECT emp_id, emp_name, salary "
        + "FROM employee "
        + "WHERE emp_id=?");
    ps.setInt(1, empid);
    ResultSet rs = ps.executeQuery();
    if (rs.next()) {
        String name = rs.getString("emp_name");
        double salary =rs.getDouble("salary");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Edit Employee</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h2>Edit Employee</h2>");
        out.println("<form method='post' " + "action='updateemp'>");
        if ("admin".equals(role)) {
            out.println("Employee ID : ");
            out.println("<input type='text' " + "value='" + empid + "'" + "readonly>");
            // Actual value submitted to servlet
            out.println("<input type='hidden' " + "name='t1' " + "value='" + empid + "'>");
            out.println("<br><br>");
        }
        else if ("employee".equals(role)) {
            // Employee ID is hidden
            out.println("<input type='hidden' " + "name='t1' " + "value='" + empid + "'>");
        }
        out.println("Employee Name : ");
        out.println( " <input type='text' " + "name='t2' " +
            "value='" + name + "'" + "required>");
        out.println("<br><br>");
        out.println("Salary : ");
        out.println("<input type='number' " + "step='0.01' " + "name='t3' "
            + "value='" + salary + "'" + "required>");
        out.println("<br><br>");
        out.println("<input type='submit' " + "value='Update Employee'>");
        out.println("</form>");
        out.println("<br>");
        out.println("<a href='readall'>" + "Back to Dashboard" + "</a>");
        out.println("<a href='logout'>Logout</a>");
        out.println("</body>");
    }
}

```

```

        out.println("</html>");
    } else {
        out.println("<h2>Employee Not Found</h2>");
        out.println("<a href='readall'>Back</a>");
    }
    rs.close();
    ps.close();
    con.close();
} catch (Exception e) {
    out.println("<h2>Error : "+ e.getMessage()+ "</h2>");
}
}
}

```

UpdateEmployeeServlet.java

```

package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletContext;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.CallableStatement;
import java.sql.Connection;
import java.sql.DriverManager;

public class UpdateEmployeeServlet extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        HttpSession session =request.getSession(false);
        if (session == null || session.getAttribute("username") == null) {
            response.sendRedirect( request.getContextPath()+ "/login.html");
            return;
        }
        response.setContentType("text/html");
        PrintWriter out =response.getWriter();
        int empid =Integer.parseInt(request.getParameter("t1"));
        String empname =request.getParameter("t2");
        double salary =Double.parseDouble(request.getParameter("t3"));
        try {
            ServletContext sc =getServletContext();
            String db_url =sc.getInitParameter("url");
            String db_name =sc.getInitParameter("name");
            String db_pass =sc.getInitParameter("pass");
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con =DriverManager.getConnection(db_url,db_name,db_pass);
            CallableStatement cs =con.prepareCall("{call update_employee(?,?,?)}");
            cs.setInt(1, empid);
            cs.setString(2, empname);
            cs.setDouble(3, salary);
            cs.executeUpdate();
        }
    }
}

```

```

        cs.close();
        con.close();
        response.sendRedirect(request.getContextPath()+ "/readall");
    } catch (Exception e) {
        out.println("<h2>Error : "+ e.getMessage()+ "</h2>");
        out.println("<a href='readall'>Back</a>");
    }
}
}
}

```

AddEmployeeServlet.java

```

package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;

public class AddEmployeeServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        HttpSession session = request.getSession(false);
        // Check session
        if (session == null) {
            response.sendRedirect(request.getContextPath() + "/index.html");
            return;
        }
        String role = (String) session.getAttribute("role");
        // ADMIN ONLY
        if (!"admin".equals(role)) {
            response.sendRedirect(request.getContextPath() + "/readall");
            return;
        }
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Add Employee</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h2>Add Employee</h2>");
        out.println("<form method='post' action='saveemp'>");
        out.println("Employee ID : ");
        out.println("<input type='number' name='t1' required>");
        out.println("<br><br>");
        out.println("Employee Name : ");
        out.println("<input type='text' name='t2' required>");
        out.println("<br><br>");
        out.println("Employee Password : ");
        out.println("<input type='password' name='t4' required>");
        out.println("<br><br>");
    }
}

```

```

        out.println("Salary : ");
        out.println("<input type='number' " + "step='0.01' " + "name='t3' required>");
        out.println("<br><br>");
        out.println("<input type='submit' " + "value='Add Employee'>");
        out.println("</form>");
        out.println("<br>");
        out.println("<a href='readall'>Back to Dashboard</a>");
        out.println("<a href='logout'>Logout</a>");
        out.println("</body>");
        out.println("</html>");
    }
}

```

DeleteEmployeeServlet.java

```

package com.lbrce.it.week7b_a;
import jakarta.servlet.ServletContext;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.CallableStatement;
import java.sql.Connection;
import java.sql.DriverManager;

public class DeleteEmployeeServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        HttpSession session = request.getSession(false);
        String role =(String) session.getAttribute("role");

        // ADMIN ONLY
        if (!"admin".equals(role)) {
            response.sendRedirect(request.getContextPath()+ "/readall");
            return;
        }
        int empid =Integer.parseInt(request.getParameter("empid"));
        response.setContentType("text/html");
        PrintWriter out =response.getWriter();
        try {
            //Read Context Parameters
            ServletContext sc =getServletContext();
            String db_url =sc.getInitParameter("url");
            String db_name =sc.getInitParameter("name");
            String db_pass =sc.getInitParameter("pass");
            //jdbc steps
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con =DriverManager.getConnection(db_url,db_name,db_pass);
            CallableStatement cs =con.prepareCall("{call delete_employee(?)}");
            cs.setInt(1, empid);
            cs.executeUpdate();

```

```

        cs.close();
        con.close();
        response.sendRedirect(request.getContextPath()+ "/readall");
    }
    catch (Exception e) {out.println("<h2>Error : "+ e.getMessage()+ "</h2>");
        out.println( "<a href='readall'>Back</a>");
    }
}
}
}
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="6.0" xmlns="https://jakarta.ee/xml/ns/jakartaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_6_0.xsd">
    <context-param>
        <param-name>url</param-name>
        <param-value>
            jdbc:mysql://localhost:3306/24batchiiibsec
        </param-value>
    </context-param>

    <context-param>
        <param-name>name</param-name>
        <param-value>root</param-value>
    </context-param>

    <context-param>
        <param-name>pass</param-name>
        <param-value></param-value>
    </context-param>

    <servlet>
        <servlet-name>LoginServlet</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.LoginServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>ReadAllEmployees</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.ReadAllEmployees</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>AddEmployeeServlet</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.AddEmployeeServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>SaveEmployeeServlet</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.SaveEmployeeServlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>Update1Servlet</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.Update1Servlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>UpdateEmployeeServlet</servlet-name>
        <servlet-class>com.lbrce.it.week7b_a.UpdateEmployeeServlet</servlet-class>
    </servlet>

```

```

<servlet>
  <servlet-name>DeleteEmployeeServlet</servlet-name>
  <servlet-class>com.lbrce.it.week7b_a.DeleteEmployeeServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>LogoutServlet</servlet-name>
  <servlet-class>com.lbrce.it.week7b_a.LogoutServlet</servlet-class>
</servlet>
<servlet-mapping>
  <servlet-name>LoginServlet</servlet-name>
  <url-pattern>/login</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>ReadAllEmployees</servlet-name>
  <url-pattern>/readall</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>AddEmployeeServlet</servlet-name>
  <url-pattern>/addemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>SaveEmployeeServlet</servlet-name>
  <url-pattern>/saveemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>Update1Servlet</servlet-name>
  <url-pattern>/update1</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>UpdateEmployeeServlet</servlet-name>
  <url-pattern>/updateemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>DeleteEmployeeServlet</servlet-name>
  <url-pattern>/deleteemp</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>LogoutServlet</servlet-name>
  <url-pattern>/logout</url-pattern>
</servlet-mapping>
<session-config>
  <session-timeout>
    30
  </session-timeout>
</session-config>
</web-app>

```

Output:

localhost:8080/Week7b_A/login.ht

+

localhost:8080/Week7b_A/login.html

🔍🔗🌟🌟👤⋮🗨 Chat

Employee Management System

Username:

Password:

Login

Employee Dashboard

+

localhost:8080/Week7b_A/readall

🔍🔗🌟🌟👤⋮🗨 Chat

Employee Management Dashboard

Welcome : admin

Role : admin

[Add Employee](#) [Logout](#)

All Employees

Employee ID	Employee Name	Salary	Edit	Delete
1004	Banala Sarath Chandra	1200000.0	Edit	Delete
1012	k Harsha	100000.0	Edit	Delete
1016	S Sravya kumari	600000.0	Edit	Delete
1019	K Harish kumar Gupta	1000000.0	Edit	Delete

Add Employee

+

localhost:8080/Week7b_A/addemp

🔍🔗🌟🌟👤⋮🗨 Chat

Add Employee

Employee ID :

Employee Name :

Employee Password :

Salary :

Add Employee

[Back to Dashboard](#) [Logout](#)

localhost:8080/Week7b_A/saveem

+

localhost:8080/Week7b_A/saveemp

🔍🔗🌟🌟👤⋮🗨 Chat

Employee Added Successfully

Employee ID : 1020

Employee Name : G Ravi Kumar

Salary : 100000.0

[Back to Dashboard](#) [Logout](#)

Employee Dashboard

localhost:8080/Week7b_A/readall

Chat

Employee Management Dashboard

Welcome : admin

Role : admin

[Add Employee](#) [Logout](#)

All Employees

Employee ID	Employee Name	Salary	Edit	Delete
1004	Banala Sarath Chandra	1200000.0	Edit	Delete
1012	k Harsha	100000.0	Edit	Delete
1016	S Sravya kumari	600000.0	Edit	Delete
1019	K Harish kumar Gupta	1000000.0	Edit	Delete
1020	G Ravi Kumar	100000.0	Edit	Delete

Activate Windows

Edit Employee

localhost:8080/Week7b_A/update?empid=1012

Chat

Edit Employee

Employee ID :

Employee Name :

Salary :

[Back to Dashboard](#) [Logout](#)

Employee Dashboard

localhost:8080/Week7b_A/readall

Chat

Employee Management Dashboard

Welcome : admin

Role : admin

[Add Employee](#) [Logout](#)

All Employees

Employee ID	Employee Name	Salary	Edit	Delete
1004	Banala Sarath Chandra	1200000.0	Edit	Delete
1012	k Harsha Kumar	100000.0	Edit	Delete
1016	S Sravya kumari	600000.0	Edit	Delete
1019	K Harish kumar Gupta	1000000.0	Edit	Delete
1020	G Ravi Kumar	100000.0	Edit	Delete

Activate Windows

Employee Dashboard

localhost:8080/Week7b_A/readall

localhost:8080 says
Are you sure?
OK Cancel

Employee Management Dashboard

Welcome : admin

Role : admin

[Add Employee](#) [Logout](#)

All Employees

Employee ID	Employee Name	Salary	Edit	Delete
1004	Banala Sarath Chandra	1200000.0	Edit	Delete
1012	k Harsha Kumar	100000.0	Edit	Delete
1016	S Sravya kumari	600000.0	Edit	Delete
1019	K Harish kumar Gupta	1000000.0	Edit	Delete
1020	G Ravi Kumar	100000.0	Edit	Delete

Activate Windows

Employee Dashboard

localhost:8080/Week7b_A/readall

Employee Management Dashboard

Welcome : admin

Role : admin

[Add Employee](#) [Logout](#)

All Employees

Employee ID	Employee Name	Salary	Edit	Delete
1004	Banala Sarath Chandra	1200000.0	Edit	Delete
1012	k Harsha Kumar	100000.0	Edit	Delete
1016	S Sravya kumari	600000.0	Edit	Delete
1020	G Ravi Kumar	100000.0	Edit	Delete

localhost:8080/Week7b_A/login.ht

localhost:8080/Week7b_A/login.html

Employee Management System

Username:

Password:

Login

Employee Dashboard

localhost:8080/Week7b_A/readall

Employee Management Dashboard

Welcome : S Sravya kumari

Role : employee

[Logout](#)

My Employee Profile

Employee ID	Employee Name	Salary	Edit
1016	S Sravya kumari	600000.0	Edit

Edit Employee

localhost:8080/Week7b_A/update?empid=1016

Edit Employee

Employee Name :

Salary :

[Back to Dashboard](#) [Logout](#)

Employee Dashboard

localhost:8080/Week7b_A/readall

Employee Management Dashboard

Welcome : S Sravya kumari

Role : employee

[Logout](#)

My Employee Profile

Employee ID	Employee Name	Salary	Edit
1016	S Sravya kumari Meena	900000.0	Edit

1. Write a JSP Program to find factorial of given number using HTML input tags

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <form method="GET">
      Enter Num1:<input type="text" name="t1" required><br>
      <input type="submit" value="FindFactorial">
    </form>
    <%
      try
      {
        if(request.getParameter("t1")!=null)
        {
          int num=Integer.parseInt(request.getParameter("t1"));
          int fact=1;
          for(int i=num;i>0;i--){
            fact=fact*i;
          }

          %>
          <p>Factorial is: <%=fact %></p>
          <%
            }
            }
            catch(NumberFormatException e)
            {
              out.println(""+e);
            }
          %>
        </body>
      </html>
    Output
```



Enter Num1: 6

FindFactorial

Factorial is: 720

2. Write a jsp program which performs basic arithmetic operations such as Addition, Subtraction, Multiplication & Division

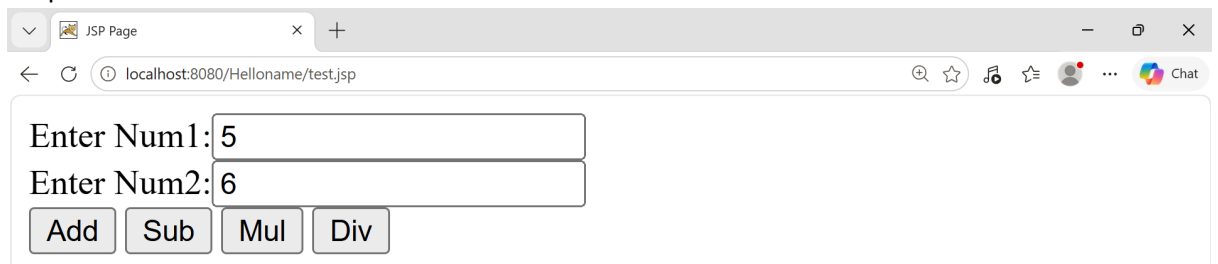
```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
```

```

</head>
<body>
  <form method="GET">
    Enter Num1:<input type="text" name="t1" required><br>
    Enter Num2:<input type="text" name="t2" required><br>
    <input type="submit" name="op" value="Add">
    <input type="submit" name="op" value="Sub">
    <input type="submit" name="op" value="Mul">
    <input type="submit" name="op" value="Div">
  </form>
  <%
    try
    {
      if(request.getParameter("t1")!=null && request.getParameter("t2")!=null)
      {
        int a=Integer.parseInt(request.getParameter("t1"));
        int b=Integer.parseInt(request.getParameter("t2"));
        if(request.getParameter("op").equals("Add"))
        {
          out.println("Addition is:"+(a+b));
        }
        if(request.getParameter("op").equals("Mul"))
        {
          out.println("Multiplication is:"+(a*b));
        }
        if(request.getParameter("op").equals("Sub"))
        {
          out.println("Substration is:"+(a-b));
        }
        if(request.getParameter("op").equals("Div"))
        {
          out.println("Division is:"+(a/b));
        }
      }
    }

    catch(NumberFormatException e)
    {
      out.println(""+e);
    }
  %>
</body>
</html>
Output:

```



Enter Num1: 5

Enter Num2: 6

Add Sub Mul Div

Enter Num1:

Enter Num2:

Add Sub Mul Div

Addition is:11

Enter Num1:

Enter Num2:

Add Sub Mul Div

Substraction is:-1

Enter Num1:

Enter Num2:

Add Sub Mul Div

Multiplication is:56

Enter Num1:

Enter Num2:

Add Sub Mul Div

Division is:2

- Write a jsp program to perform addition of n given numbers using html input fields

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```
<title>JSP Page</title>
```

```
</head>
```

```
<body>
```

```
<form method="GET">
```

```
Enter Num1:<input type="text" name="t" required><br>
```

```
Enter Num2:<input type="text" name="t" required><br>
```

```
Enter Num3:<input type="text" name="t" required><br>
```

```

        Enter Num4:<input type="text" name="t" required><br>
        Enter Num5:<input type="text" name="t" required><br>
        <input type="submit" value="Find Addition">
    </form>
    <%
        try
        {
            String inputs[]=request.getParameterValues("t");
            int result=0;
            for(String x:inputs)
            {
                result=result+Integer.parseInt(x);
            }
        }
        %>
        <p> The Addition of n given numbers is: <%=result%></p>
    <%
        }
        catch(NumberFormatException e)
        {
            out.println(""+e);
        }
        catch(NullPointerException e)
        {
            out.println(""+e);
        }
    %>
</body>
</html>

```

Output:

The screenshot shows a web browser window titled 'JSP Page'. The address bar shows 'localhost:8080/Helloname/test.jsp?t=5&t=10&t=15&t=20&t=25'. The page content includes five input fields labeled 'Enter Num1:', 'Enter Num2:', 'Enter Num3:', 'Enter Num4:', and 'Enter Num5:'. The values entered are 5, 10, 15, 20, and 25 respectively. Below these fields is a button labeled 'Find Addition'. Below the button, the text 'The Addition of n given numbers is: 75' is displayed.

4. Write a jsp program to mark attendance for student using html input checkbox tag and javascript.

```

<html>
<body>
<form method="POST" action="markattendance.jsp">
    <h3>Student Attendance Marking Page</h3>
    <script>
        for(let i=1201; i<=1266; i++)
        {

```

```
document.write( "<input type='checkbox' name='attendance' value='24761A'" + i + "'>24761A" + i + "&nbsp;&nbsp;&nbsp;" );  
if((i - 1200) % 10 == 0)  
{  
    document.write("<br>");  
}  
}  
</script>  
<br>  
<input type="submit" value="Mark Attendance">  
</form>  
<%  
String students[] = request.getParameterValues("attendance");  
if(students != null){  
>  
<h3>Attendance Result</h3>  
<b>Present Students:</b>  
<br>  
<%  
    for(String x : students)  
    {  
        out.print(x + " &nbsp;&nbsp;&nbsp; ");  
    }  
>  
<br><br>  
<b>Absent Students:</b>  
<br>  
  
<%  
    for(int i=1201; i<=1266; i++)  
    {  
        String id = "24761A" + i;  
  
        boolean present = false;  
  
        for(String x : students)  
        {  
            if(x.equals(id))  
            {  
                present = true;  
                break;  
            }  
        }  
        if(!present)  
        {  
            out.print(id + " &nbsp;&nbsp;&nbsp; ");  
        }  
    }  
}>  
</body>  
</html>
```

Output:

Attendance

localhost:8080/Helloname/markattendance.jsp

Student Attendance Marking Page

☒ 24761A1201

☐ 24761A1202

☐ 24761A1203

☐ 24761A1204

☐ 24761A1205

☐ 24761A1206

☐ 24761A1207

☐ 24761A1208

☒ 24761A1209

☐ 24761A1210

☐ 24761A1211

☒ 24761A1212

☐ 24761A1213

☒ 24761A1214

☐ 24761A1215

☐ 24761A1216

☐ 24761A1217

☐ 24761A1218

☒ 24761A1219

☒ 24761A1220

☐ 24761A1221

☐ 24761A1222

☒ 24761A1223

☐ 24761A1224

☐ 24761A1225

☐ 24761A1226

☐ 24761A1227

☐ 24761A1228

☒ 24761A1229

☒ 24761A1230

☒ 24761A1231

☐ 24761A1232

☐ 24761A1233

☒ 24761A1234

☒ 24761A1235

☒ 24761A1236

☒ 24761A1237

☒ 24761A1238

☒ 24761A1239

☐ 24761A1240

☐ 24761A1241

☐ 24761A1242

☐ 24761A1243

☐ 24761A1244

☐ 24761A1245

☐ 24761A1246

☐ 24761A1247

☐ 24761A1248

☐ 24761A1249

☐ 24761A1250

☒ 24761A1251

☒ 24761A1252

☐ 24761A1253

☒ 24761A1254

☐ 24761A1255

☐ 24761A1256

☒ 24761A1257

☐ 24761A1258

☒ 24761A1259

☐ 24761A1260

☐ 24761A1261

☐ 24761A1262

☐ 24761A1263

☐ 24761A1264

☐ 24761A1265

☐ 24761A1266

Mark Attendance

Attendance

localhost:8080/Helloname/markattendance.jsp

Student Attendance Marking Page

☐ 24761A1201

☐ 24761A1202

☐ 24761A1203

☐ 24761A1204

☐ 24761A1205

☐ 24761A1206

☐ 24761A1207

☐ 24761A1208

☐ 24761A1209

☐ 24761A1210

☐ 24761A1211

☐ 24761A1212

☐ 24761A1213

☐ 24761A1214

☐ 24761A1215

☐ 24761A1216

☐ 24761A1217

☐ 24761A1218

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☐ 24761A1231

☐ 24761A1232

☐ 24761A1233

☐ 24761A1234

☐ 24761A1235

☐ 24761A1236

☐ 24761A1237

☐ 24761A1238

☐ 24761A1239

☐ 24761A1240

☐ 24761A1241

☐ 24761A1242

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☐ 24761A1258

☐ 24761A1259

☐ 24761A1260

☐ 24761A1261

☐ 24761A1262

☐ 24761A1263

☐ 24761A1264

☐ 24761A1265

☐ 24761A1266

Mark Attendance

Attendance Result

Present Students:

24761A1201 24761A1209 24761A1212 24761A1214 24761A1219 24761A1220 24761A1223 24761A1229 24761A1230 24761A1231 24761A1234 24761A1235

24761A1236 24761A1237 24761A1238 24761A1239 24761A1251 24761A1252 24761A1254 24761A1257 24761A1259

Absent Students:

24761A1202 24761A1203 24761A1204 24761A1205 24761A1206 24761A1207 24761A1208 24761A1210 24761A1211 24761A1213 24761A1215 24761A1216

24761A1217 24761A1218 24761A1221 24761A1222 24761A1224 24761A1225 24761A1226 24761A1227 24761A1228 24761A1232 24761A1233 24761A1240

24761A1241 24761A1242 24761A1243 24761A1244 24761A1245 24761A1246 24761A1247 24761A1248 24761A1249 24761A1250 24761A1253 24761A1255

24761A1256 24761A1258 24761A1260 24761A1261 24761A1262 24761A1263 24761A1264 24761A1265 24761A1266