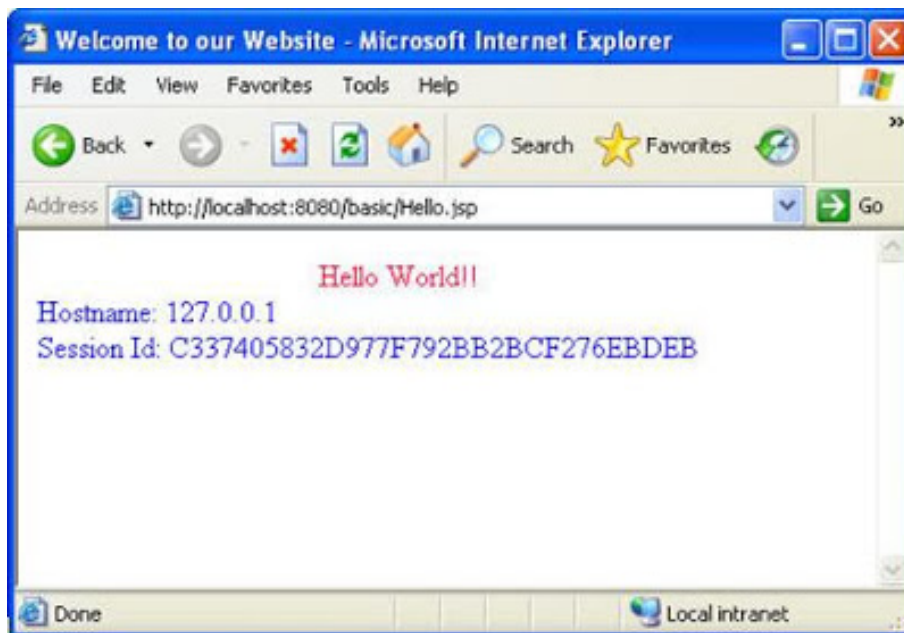**1. Write a program to display a "Hello World" message in the Web browser. In addition, display the host name and Session Id. Write JSP code using HTML code.**

Solution:

```
<html>
<head>
<title>Welcome to our Website</title>
</head>
<body>
<marquee><font size="3" color="#FF0033">Hello World!!
</font></marquee>
<font color = "#0000FF"> Hostname: <%= request.getRemoteHost()
%><br>
<font color = "#0000FF"> Session Id: <%= session.getId() %>
</body>
</html>
```
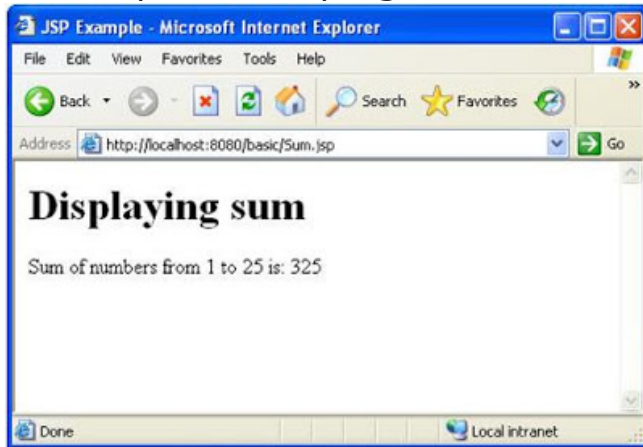

2. Write a program using JSP to calculate the sum of numbers from 1 to 25.

Solution:

```
<html>
<head>
<title>JSP Example</title>
</head>
<body>
<h1>Displaying sum</h1>
<%
    int sum=0;
    for(int num=1;num<=25;num++)
    {
      sum=sum+num;
    }
    out.println("Sum of numbers from 1 to 25 is : " + sum);
%>
</body>
</html>
```
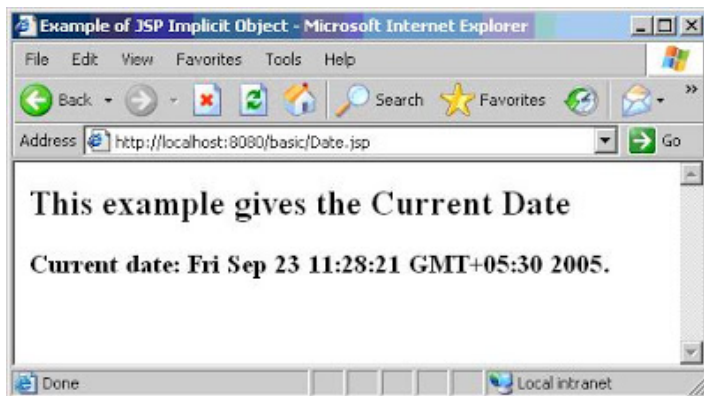
The output of the program is as shown:

3. Write a program that uses the response.setHeader()method to display the date. In addition, set the response header attribute and utilize the JSP expression tag.

Solution:

```
//Date.jsp
<html>
<head>
```

```
<title>Example of JSP Implicit Object</title>
    <%@ page import="java.util.Date" %>
    </head>
<body bgcolor=#ffffff>
<font color="Black">
<h2> This example gives the Current Date </h2>
<h3>
    <% response.setHeader("Refresh", "6"); %>
     Current date: <%= new Date() %>.
</h3>
</body>
</html>
```

The output of the program is as shown

4. Write a program to display the session ID, creation time, and the last accessed time of the Web page. Using session.getID, session.getCreationTime(), and session.getLastAccessedTime().

Solution:

The file used in this exercise is Expression.jsp.

```
<html>
<head>
<title> JSP Expressions </title>
</head>
<body bgColor="white">
```

```
<h2>Simple JSP Expression</h2>
<ul>
<li> Session id:<%= session.getId() %>
<li> Creation time:<%= new
java.util.Date(session.getCreationTime()) %>
<li> Time of last access: " + <%= new
java.util.Date(session.getLastAccessedTime())%>
</ul>
</body>
</html>
```

The output of the program is as shown.

5. Write a program to display an error message to the user if an exception occurs in the JSP page. In the JSP page, consider a null string and find out the length of the string using length()method of Java. Create an error handler to handle the exception thrown by this JSP page.

Solution:

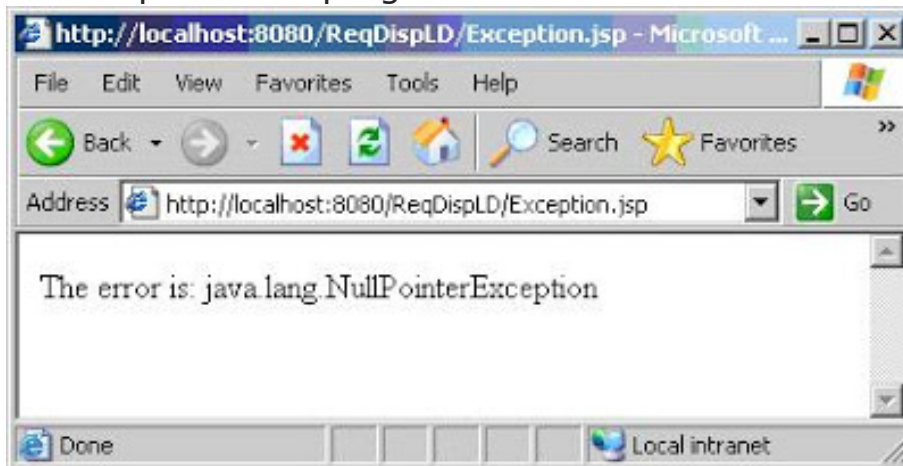The files used to run the application are:

1. Exception.jsp
2. Example.html

```
//Exception.jsp
<html>
<body>
    <%@ page errorPage="example.jsp" %>
Example for Null Pointer exception:
<%
   String s=null;
   s.length();
%>
</body>
</html>

//Error handler file
//Example.jsp
<html>
<body>
   <%@ page isErrorPage="true" %>
The error is:
   <%= exception %>
</body>
</html>
```

The output of the program is as shown.

6. Write a program using the request.getParameter() method to enter the Name and Password of a user and display the output on another JSP page.

Solution:

The files used to run the application are:

User.jsp
UserDisplay.jsp

```html
<html>
<head>
<title>Example of Implicit Objects</title>
</head>
<body>
      <h1>User submission form</h1>
      <form action="UserDisplay.jsp" method="post">
       Enter User Name:
       <input type="text" name="uname">
<br>
<br>
        Enter Password:
        <input type="password" name="pname">
<br>
<br>
        <input type="submit" name="submit" value="Submit">
</form>
</body>
</html>
```

Save the code as User.jsp

```html
<html>
<head>
<title>Example of Implicit objects</title>
</head>
<body>
       <font face=Times New Roman size=3>
     Thank you for your submission. Your information has been
     successfully added to the database:
<br>
<br>
<%
    String sUName = request.getParameter("uname");
    String sPName = request.getParameter("pname");
```
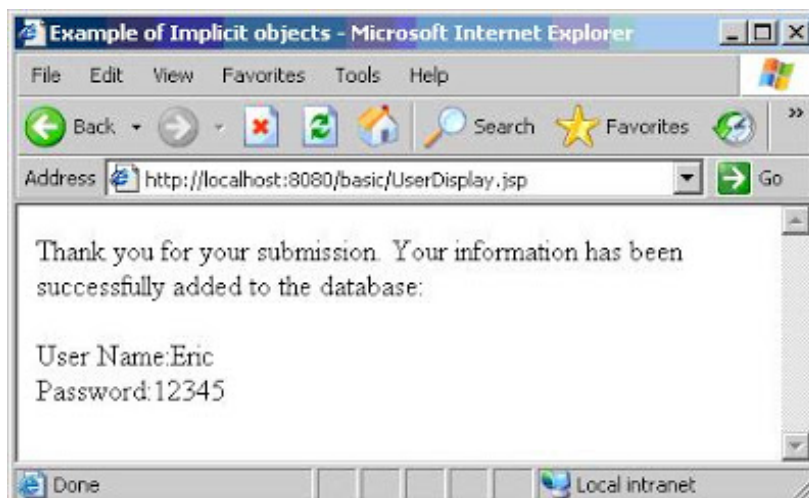
```
%>
   User Name:<%=sUName%><br>
   Password:<%=sPName%><br>
</font>
</body>
</html>
```

Save the code as UserDisplay.jsp

The output of the program:

The user enters the information and clicks the Submit button. The control is transferred to the UserDisplay.jsp page.

7. Write a program to display the multiples of two. Include a for loop in the scriptlet block and display the numbers.
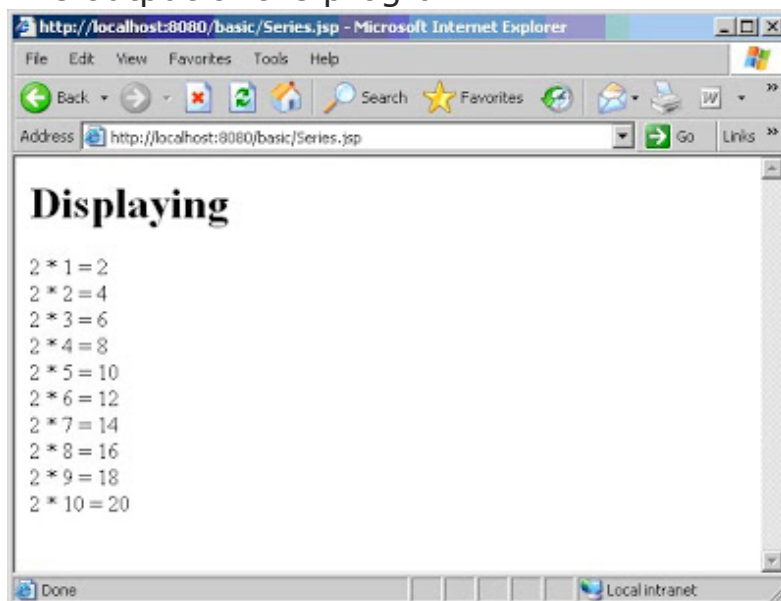
Solution:

The file used in this exercise is Series.jsp.

```
<html>
<body>
<h1>Displaying </h1>
<%
    int res;
    int j=2;

for (int i=1; i<11; i++)
{
    res=j*i;
    out.println(j + " * " + i + " = " + res);
    out.println("<br>");
}
%>
</body>
</html>
```

The output of the program

8. Write a program to include an HTML file in a JSP page using RequestDispatcher interface method. The included file should display a login form to the user. In addition, the form should provide a Submit and Reset button. Display a Welcome message to the user when the user clicks on Submit button after entering the details.

Solution:

The files used to run the application are:

1. Include.jsp
2. form.html
3. Welcome.jsp

```
//Include.jsp
<html>
<head>
<title>Include Example</title>
</head>

<P>
<jsp:include page="form.html" flush="true"/>
</body>
</html>
```
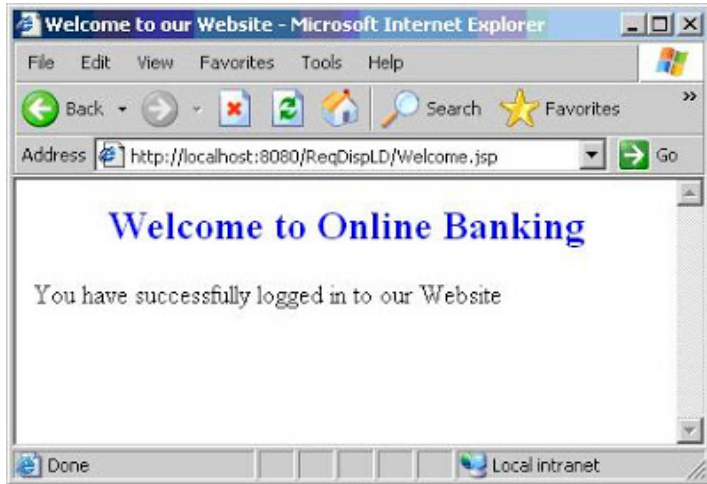
```
//form.html
<html>
<head>
<style>
body, input { font-family:Tahoma;
              font-size:10pt;
            }
</style>
</head>
<body>

<form action="Welcome.jsp" method="post">
&nbsp &nbsp &nbsp &nbsp &nbsp &nbsp Enter your Account Id:

<input type="text" name="Acc_Id" /> &nbsp &nbsp &nbsp &nbsp
```


Enter your Pin number:

```
<input type="text" name="Pin_num"/> <br><br><br><br>
<Center><input type="submit" value="Submit"/><Center>
</form>
</body>
</html>
```

```
//Welcome.jsp
<%@ page language = "java" import="java.util.*" %>
<html>
<head>
<title>Welcome to our Website</title>
</head>
<body>
<center>
     out.println("Welcome to Online Banking");
</center>
</body>
</html>
```

The output of the program

 Output of form.html

When the user enters the details and clicks on Submit button, the output appears as shown:

Output after clicking Submit button