**Practical No. 1(a)**

**Q. Create a web application using servlet to display a Welcome message.**

**index.html**

```html
<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="WelcomeServlet">
         <h1>A Welcome Web Application</h1>
         Enter your Name:<input type="text" name="txtName">
            <input type="submit">
      </form>
   </body>
</html>
```

**WelcomeServlet.java**

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

public class WelcomeServlet extends HttpServlet {

   @Override
   protected void doGet(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      try (PrintWriter out = response.getWriter()) {

         out.println("<!DOCTYPE html>");
         out.println("<html>");
         out.println("<head>");
         out.println("<title>Servlet WelcomeServlet</title>");
         out.println("</head>");
```

```
        out.println("<body>");
        out.println("<h1> Welcome "+request.getParameter("txtName")+"</h1>");
        out.println("<br><br><a href='index.html'>Click here to go back</a>");
        out.println("</body>");
        out.println("</html>");
    }
  }
}
```

## web.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd">
    <servlet>
        <servlet-name>WelcomeServlet</servlet-name>
        <servlet-class>WelcomeServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>WelcomeServlet</servlet-name>
        <url-pattern>/WelcomeServlet</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>
```
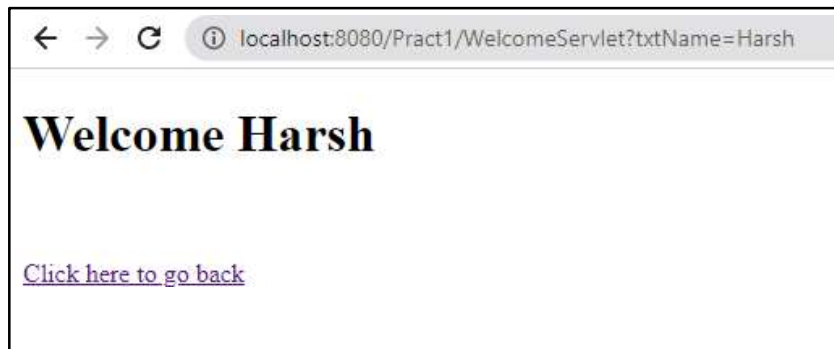
**Output:**









**Practical No. 1(b)**

## Q. Create a simple calculator application using servlet

### index.html

```html
<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="CalculatorServlet">
      Enter first number:<input type="text" name="txtN1">
      Enter Second number:<input type="text" name="txtN2"><br><br>

      Select an Operation:
      <input type="radio" name="opr" value="+">ADDITION
      <input type="radio" name="opr" value="-">SUBTRACTION
      <input type="radio" name="opr" value="*">MULTIPLICATION
      <input type="radio" name="opr" value="/">DIVISION<br><br>

                          
                        
                        
            

      <input type="reset">   
      <input type="submit">
    </form>
  </body>
</html>
```

### CalculatorServlet.java

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

```java
public class CalculatorServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {

            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet CalculatorServlet</title>");
            out.println("</head>");
            out.println("<body>");

            double n1=Double.parseDouble(request.getParameter("txtN1"));
            double n2=Double.parseDouble(request.getParameter("txtN2"));
            double result=0;
            String opr=request.getParameter("opr");

            if(opr.equals("+"))
                result=n1+n2;
            if(opr.equals("-"))
                result=n1-n2;
            if(opr.equals("*"))
                result=n1*n2;
            if(opr.equals("/"))
                result=n1/n2;

            out.println("<h1>"+ n1 + opr + n2 + "="+result+"</h1>");
            out.println("</body>");
            out.println("</html>");
        }
    }
}
```

**Output:**

**Practical No. 1(c)**

**Q. Create a servlet for a login page. If the username and password are correct, then it says message "Hello <username>" else a message "login failed".**

**index.html**

```html
<html>
   <head>
     <title>Login Page</title>
     <meta charset="UTF-8">
     <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
     <form method="get" action="LoginServlet">
        Enter User ID: <input type="text" name="txtId"><br><br>
        Enter Password: <input type="password" name="txtPass"><br><br>
        <input type="reset">
        <input type="submit" value="Click to Login">
     </form>
   </body>
</html>
```

**LoginServlet.java**

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

public class LoginServlet extends HttpServlet {

   @Override
   protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
     response.setContentType("text/html;charset=UTF-8");
     try (PrintWriter out = response.getWriter()) {
       out.println("<!DOCTYPE html>");
       out.println("<html>");
       out.println("<head>");
       out.println("<title>Servlet
       LoginServlet</title>");
```
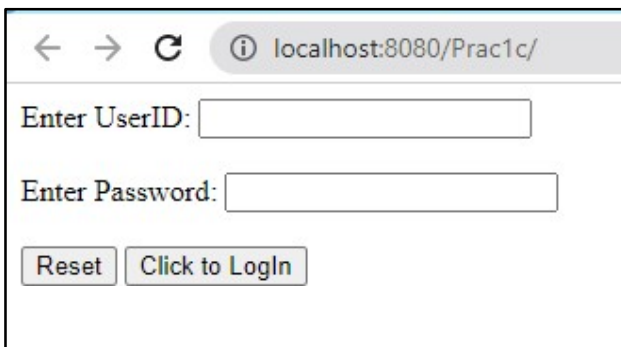
```
            out.println("</head>");
            out.println("<body>");

            String uname=request.getParameter("txtId");
            String upass=request.getParameter("txtPass");
            if(uname.equals("Harsh") && upass.equals("12345"))
            {
                out.println("<body bgcolor=pink>");
                out.println("<h1>Welcome !!! "+uname+"</h1>");
            }
            else
            {
                out.println("<body bgcolor=cyan>");
                out.println("<h1>Login Fail!!!</h1>");
            }
            out.println("</body>");
            out.println("</html>");
        }
    }
}
```
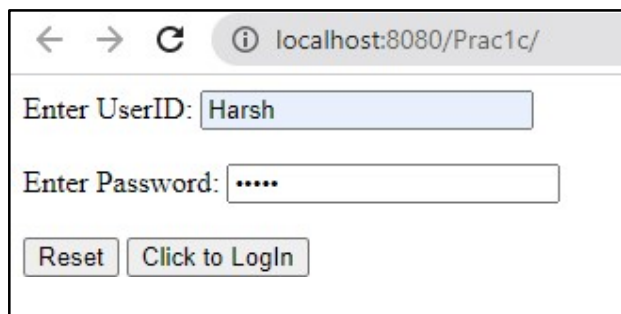
## Output:

---

← → C ⓘ localhost:8080/Prac1c/LoginServlet?txtId=Harsh&txtPass=12345

# Welcome !!! Harsh

← → C ⓘ localhost:8080/Prac1c/

Enter UserID: admen

Enter Password: •••••

Reset | Click to LogIn

← → C ⓘ localhost:8080/Prac1c/LoginServlet?txtId=admen&txtPass=12345

# Login Fail!!!