

Question 1: Create a simple calculator application using servlet.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title
here</title>
<style>

    button{

        background-color:blue;
        color:white;

    }

</style>
</head>
<body>

<form action="cal" method="get">

Enter 1st no:<input type="text" name="a"><br>
Enter 2nd no:<input type="text" name="b"><br>
Enter operator:<input type="text" name="c">
<br>
<Button type="Submit">Submit</Button>

</form>

</body>
</html>

package firp;

import
java.io.IOException;
import
java.io.PrintWriter;

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

public class calculator extends HttpServlet {
    public void service(HttpServletRequest req, HttpServletResponse res) throws IOException{
        int i=Integer.parseInt(req.getParameter("a"));
        int j=Integer.parseInt(req.getParameter("b"));
        String q=(req.getParameter("c"));
        PrintWriter out=res.getWriter();
        switch(q.charAt(0)) {
```

```

case '+':

int k1=i+j; out.println("add is:"+k1);
break;

case '-':
int m1=i-j;
out.println("subtract is:"+m1);
break;

case '*':
int k2=i*j;
out.println("multiplication is:"+k2);
break;
case '/':
double k4=i/j;
out.println("multiplication is:"+k4);
break;

default:

System.out.println("Invalid operator"); }

}

}

```

Output question1

```

Enter 1st no:21
Enter 2nd
no:31 Enter
operator:+
Submit
add is:52

```

Question2

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

```

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<div class="container">

<h1>LOGIN PAGE</h1> <form
action="login" method="get">

<table>
<tr>
<td>UserName:</td>
<td><input type="text" name="user_name" placeholder="Enter here"></td>
</tr>
<tr>

```

```

        <td>Password:</td> <td><input type="text" name="user_pname" placeholder="Enter here"></td>
    </tr>
</table>

<input type="Submit">
</form>
</div>
</body>
</html>
package logp;

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

public class lp1 extends HttpServlet {
public void service(HttpServletRequest req,HttpServletResponse res)
throws
IOException,ServletException{
res.setContentType("text/html");
PrintWriter out=res.getWriter();
String name=req.getParameter("user_name");
String passwd=req.getParameter("user_pname");
if(name.equals("shyamharan") && passwd.equals("3375")) {

out.println("<h2>HELLO Anup</h2>");
}
else
{
out.println("<h2>LOGIN FAILED</h2>");
} }

}
<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd" id="WebApp_ID" version="4.0">

<display-name>demoq2</display-name>

<servlet>

<servlet-name>sts</servlet-name>
<servlet-class>logp.lp1</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>sts</servlet-name>
<url-pattern>/login</url-pattern>
</servlet-mapping>

</web-app>

```

Output question2

UserName:anup
ran Password:3378

Login

Hello anup

UserName: anup
Password:1267

Login

Login failed

Questin3:

Using Request Dispatcher Interface create a Servlet which will validate the password entered by the user, if the user has entered "Servlet" as password, then he/she will be forwarded to Welcome Servlet else the user will stay on the index.html page and an error message will be displayed.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>

<div class="container">
<form action="redisp" method="get">
<table>
<tr>
<td>UserName:</td>
<td><input type="text" name="user_name"
placeholder="Enter here"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="text" name="password"
placeholder="Enter here"></td>
</tr>
<tr>
<td>
<button type="login">Login</button>
</td>
</tr>
</table>
</form>
</div>
```

```

</body> </html> package
deser;
import java.io.IOException;
import jakarta.servlet.ServletException;
import java.io.PrintWriter;

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

public class nextsip extends HttpServlet { public void
doGet(HttpServletRequest
req,HttpServletResponse res) throws IOException {
res.setContentType("text/html");

PrintWriter out=res.getWriter();
String name=req.getParameter("user_name");
out.print("Welcome "+name);

}
} package deser;

import java.io.IOException; import
java.io.PrintWriter;

import
jakarta.servlet.RequestDispatcher;
import jakarta.servlet.ServletException;

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

public class sip extends HttpServlet { public void
service(HttpServletRequest
req,HttpServletResponse res) throws
IOException,ServletException{
res.setContentType("text/html");
PrintWriter out=res.getWriter();

String    name=req.getParameter("user_name");
String    passwd=req.getParameter("password");
if(passwd.equals("Servlet")){           {
RequestDispatcher
rd=req.getRequestDispatcher("nextS");
rd.forward(req, res);

}
else
{ out.print("Incorrect password");
RequestDispatche
rd=req.getRequestDispatcher("sq3.html");
rd.include(req, res);
}
}

```

```
}  
}  
Output question3
```

```
UserName: anup  
Password:Servlet  
login
```

```
Welcome anup
```

```
UserName: anup
```

```
Password:Servlet  
ts
```

```
login
```

```
Incorrect  
password
```

Question4

Create a servlet that uses Cookies to store the number of times a user has visited servlet.

```
<!DOCTYPE html> <html>  
<head>  
<meta charset="ISO-8859-1">  
<title>Insert title here</title>  
</head>  
<body>  
<h1> VisitServlet</h1>  
<a href="VisitCounterServlet">visitServlet</a>  
</body>  
</html>  
package ck1;  
  
import java.io.IOException;  
import java.io.PrintWriter;  
import jakarta.servlet.ServletException;  
import jakarta.servlet.annotation.WebServlet;  
import jakarta.servlet.http.Cookie;  
import jakarta.servlet.http.HttpServlet;  
import jakarta.servlet.http.HttpServletRequest;  
import jakarta.servlet.http.HttpServletResponse;  
  
@WebServlet("/VisitCounterServlet")  
public class VisitCounterServlet extends HttpServlet {  
    private static final long serialVersionUID = 1L;  
    protected void doGet(HttpServletRequest request,  
        HttpServletResponse response) throws ServletException,  
        IOException {  
        response.setContentType("text/html");
```

```

PrintWriter out = response.getWriter();
    int visitCount = 0;
    Cookie[] cookies = request.getCookies();
    if (cookies != null) {
        for (Cookie cookie : cookies) {
            if (cookie.getName().equals("visitCount")) {
                visitCount =
Integer.parseInt(cookie.getValue());
            }
        }
    }

    visitCount++;
    Cookie visitCountCookie = new Cookie("visitCount",
Integer.toString(visitCount));

    visitCountCookie.setMaxAge(60 * 60 * 24 * 365); // 1
year
    response.addCookie(visitCountCookie);

    out.println("<h1>You have visited this site: " + visitCount
+ " times.</h1>");

    out.close();

}

protected void doPost(HttpServletRequest request,
    HttpServletResponse response) throws ServletException,
    IOException {
    doGet(request, response);
}
}

```

Output question4

VisitServlet

[visitServlet](#)

You have visited this site: 52 times.

Question5

Create a servlet demonstrating the use of session creation and destruction Also check whether the user has visited this page first time or has visited earlier also using sessions.

```

<!DOCTYPE html> <html>
<head>

```

```

<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>

<h1>Session Tracking</h1>

    <a href="SessionTrackingServlet">Visit the Servlet</a>

</body>
</html>

```

```

package sixthP;
import java.io.IOException;
import java.io.PrintWriter; 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;

@WebServlet("/SessionTrackingServlet")

public class SessionTrackingServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request,
HttpServletResponse response) throws ServletException,
IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession(true); String visitStatus;

        if (session.isNew()) {
            visitStatus = "This is your first visit to this page.";
        } else {
            visitStatus = "You have visited this page before.";
        }

        out.println("<h1>Session Tracking</h1>"); out.println("<h2>"
+ visitStatus + "</h2>");
        out.close();
    }
}

```



```
protected void doPost(HttpServletRequest request,
HttpServletRequest response) throws ServletException,
IOException {
doGet(request, response); }
}
```

Output question5
Session Tracking
[Visit the Servlet](#)

Session Tracking
This is your first
visit to this page.

Question7

Write a servlet application to print the current date and time.

```
<!DOCTYPE html> <html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Display Date and time</h1>
    <form action="datetime" method="get"> <input
    type="submit" value="show date time">
    </form>
</body>
</html>

package secondP;
import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;

@WebServlet("/datetime")
public class datetime extends HttpServlet {

    Public void doGet(HttpServletRequest
req,HttpServletResponse res) throws
IOException,ServletException{

    res.setIntHeader("refresh", 1);
    res.setContentType("text/html");
    PrintWriter out=res.getWriter();
    java.util.Date date=new java.util.Date();
    out.println("<html><body bgcolor='black'>");
    out.println("<h1 style='color:red;text-align:center'>"+date+"</h1>");
```

```
out.println("</body></html>");
```

```
}
```

```
} Output question7
```

Display Date and time

Show date time

Thu Aug 15 11:20:34 IST 2024

Question8

Write a servlet application to establish communication between html and servlet page using hyperlink.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
<style>
#pa1{
    color:green;

} #par2{
    color:red;
}
#par3{
    color:red;

} #par4{
    color:red;
} </style>
</head>
<body>
    <h2 id="pa1">please click on the link</h2>
    <a id="par2" href="MyServlet?action=hello">Hello</a><br>

    <br>
    <a id="par3" href="MyServlet?action=greet">Good morning</a><br>

    <br>
    <a id="par4" href="MyServlet?action=wonderful">wonderful</a><br>
</body>
</html>

package thirdP;
```

```

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

@WebServlet("/MyServlet")
public class MyServlet extends HttpServlet {
    public void doGet(HttpServletRequest
    req,HttpServletResponse res)throws
    IOException,ServletException{

    String action = req.getParameter("action");

        res.setContentType("text/html");
        res.getWriter().println("<html><body>");
        if ("hello".equals(action)) {
            res.getWriter().println("<html><body bgcolor='blue'>");
            res.getWriter().println("<h1>Hello How are
you?</h1>");
            res.getWriter().println("</body></html>");
        } else if ("greet".equals(action)) {
            res.getWriter().println("<html><body bgcolor='red'>");
            res.getWriter().println("<h1> Goodmorning! nice to
meet you!</h1>");
            res.getWriter().println("</body></html>");
        }
        else if("wonderful".equals(action)) {
            res.getWriter().println("<html><body
bgcolor='green'>");
            res.getWriter().println("<h1>The day is excellent,great
and wonderful</h1>");
            res.getWriter().println("</body></html>");
        }
        res.getWriter().println("</body></html>");
    }
}

```

Output question8

please click on the
link

Hello
Good morning
wonderful

Click on Hello link output is

Hello how are you?

Click on Good morning link output is

Goodmorning! nice to meet you!

Click on wonderful link output is

The day is excellent, great and wonderful

Question9

Write an application to auto refresh a page in servlet.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h2>auto refresh page</h2>
<form action="Refresh" method="get">
    <input type="submit" value="Refresh"> </form>
</body>
</html>
package fourthP;
import java.io.IOException;
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 java.io.PrintWriter;

@WebServlet("/Refresh")

public class Refresh extends HttpServlet { public void
doGet(HttpServletRequest req,
HttpServletResponse res) throws
IOException,ServletException {
    res.setIntHeader("refresh", 30);
res.setContentType("text/html");
PrintWriter out=res.getWriter();
java.util.Date date=new java.util.Date();
out.println("<html><body bgcolor='black'>");
out.println("<h1 style='color:blue;text-align:center'>"+date+"</h1>");
    out.println("</body></html>");
}
}
```

Output question9

Auto refresh page refresh

Every 30 sec page will be refreshed.

Thu Aug 14 11:32:25 IST 2024

Thu Aug 14 11:32:55 IST 2024

Question 10 For this assignment you have to develop a simple servlet application.

Construct a simple HTML form for registration to an email service. The fields in the form are

1. First name
2. Middle name
3. Last name

4. Desired login
5. Password
6. Confirm Password
7. Location
8. Education
9. Phone number

The fields 1,3,4,5 and 6 are compulsory for registration others are optional.

There are some restrictions on the fields

1. The First name, middle name and last name fields should contain only alphabets

2. Passwords should contain alphabets and atleast one numbers and special character.

Passwords should contain atleast 6 characters

On pressing the submit button the form should pass the data to a servlet which

check the restrictions and returns a successful registration message in case

all restrictions are fulfilled otherwise display back a appropriate

error message.

The checking of restrictions should be done on servlet side not in the form

itself. Also, use of Java script is not allowed.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
<style>
    background-color:white;
    color:purple;

    } button{

    }    background-color:green; color:white;
        width:55%;
</style>
</head>
<body style="background-color:black;">
    <div class ="container">
        <h1 id="par1">Student Registration form</h1>
        <form action="RegisterServlet" method="post">
            <table>
                <tr> <td style="color:blue;">Enter First name:</td>
                <td > <input type="text" name="fname"placeholder="First Name" required></td>
```

```

</tr>
<tr>

<td style="color:blue;">Enter Middle name:</td>

<td> <input type="text" name="mname" placeholder="Middle
Name" ></td>

</tr>
<tr>

<td style="color:blue;">Enter Last name:</td>
<td> <input type="text" name="lname"
placeholder="Enter here" required></td>

</tr>
<tr>

<td style="color:blue;">Enter User name:</td>
<td> <input type="text" name="name"
placeholder="Enter here" required></td>

</tr>
<tr>

<td style="color:blue;">Enter Password:</td>
<td> <input type="password" name="passwd"
placeholder="Enter here" required></td>

</tr>
<tr>

<td style="color:blue;">Confirm Password:</td>
<td> <input type="password" name="cpasswd"
placeholder="Enter here" required></td>

</tr>
<tr>

```

```

        <td style="color:blue;">Location:</td> <td> <input
        type="text" name="user_loc"
placeholder="Enter here"></td>

        </tr>
        <tr>
        <td style="color:blue;">Education:</td>
        <td> <input type="text" name="uedu"
placeholder="Enter here"></td>

        </tr>
        <tr>
        <td style="color:blue;">Enter phone no.:</td>
        <td> <input type="tel" name="phone"
placeholder="123-456-789"pattern="[0-9]{3}-[0-9]{3}- [0-9]{4}"required></td>
        </tr>
        <tr>
        <td style="text-align:right;">
            <button type="submit">Submit</button>
        </td>
        </tr>

    </table>

</form>
</div>
</body>
</html>
package tenthP;
import java.io.IOException;
import java.io.PrintWriter; import
jakarta.servlet.annotation.*;
import
jakarta.servlet.ServletException; import
jakarta.servlet.http.HttpServlet;

```

```

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

@WebServlet("/RegisterServlet")
public class RegisterServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request,
        HttpServletResponse response) throws ServletException,
        IOException {

        response.setContentType("text/html");
        PrintWriter out=response.getWriter();
        String firstName = request.getParameter("fname");
        String middleName =
request.getParameter("mname");
        String lastName = request.getParameter("lname");
        String login = request.getParameter("name");
        String password = request.getParameter("passwd");
        String ConfirmPassword =
request.getParameter("cpasswd");
        StringBuilder st = new StringBuilder();
        if (!firstName.matches("[A-Za-z]+")) {

            st.append("First Name should contain only
alphabets.<br/>");
        }
        if (!lastName.matches("[A-Za-z]+")) {
            st.append("Last Name should contain only
alphabets.<br/>");
        }
        if (middleName != null && !middleName.matches("[A-
Za-z]*")) {
            st.append("Middle Name should contain only
alphabets.<br/>");
        }
        if(login==null) {
            st.append("desired login is required.<br>");
        }
        if (password.length() < 6 || !password.matches(".*[A-
Za-z].*") || !password.matches(".*[0-9].*")
|| !password.matches(".*[^A-Za-z0-9].*")) {
            st.append("Password should contain at least 6
characters and contain alphabets, a number, and a
special character.<br/>");
        }
        if (!password.equals(ConfirmPassword)) {

```



```

        st.append("Passwords do not match.<br/>");
    }
    if (st.length() > 0) {
        response.setContentType("text/html"); response.getWriter().println("
        <html><body>" +
st.toString() + "</body></html>");
    } else {
        response.setContentType("text/html");

response.getWriter().println("<html><body>Registration
Successful</body></html>");

    }
}

```

Output question10

Student Registration form

```

Enter First name:anup
Enter Middle name
Enter Last name: majumdar
Enter User name: majumdar013
Enter Password: .....
ConfirmPassword:.....
Location:siliguri
Education:mca
phone no.:123456790

```

Registration Successful

Student Registration form

```

Enter First name:anup
EnterMiddlename:
Enter Last name:majumdar
Enter User name:Majumdar013
Enter Password: .....
ConfirmPassword:.....
Location:siliguri
Education:mca
phone no.:1234567890

```

Submit

First name should contain only alphabets.

