Experiment 3.1

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Branch: BE-CSE **Section/Group:** 20BCS903 A
Semester: 5TH **Subject Name :** PBLJ Lab
Subject Code: 20CSP-321

1.Aim: Create a palindrome creator application for making a longest possible palindrome out of given input string.

2.Software/Hardware Requirements: VS Code or Eclipse

3. Algorithm/ PsuedoCode:

STEP 1- Create a index.jsp file in a webapp directory.

STEP 2 - Create a package named as fun and create a java file named as functions.java .

STEP 3 - functions.java file contains the logic for checking the palindromic substring .

STEP 4- At Last start the server and display the output on the web browser.

STEP 5- EXIT

CODE:

Index.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
```

```
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
<style>
body{
       background: linear-gradient(45deg, red, blue);
backgroung-size: cover;         color: white;
align-items: center;
    }
h1{
       text-align:center;
    }
.fall{
       border: 2px solid orange;background: blue;
padding: 5px;        max-width: 500px;
height: 100px;        margin: auto;
font-size: 19px;
    }
input{
       width: 250px;
    }
button{
       position: relative;
left: 170px;
       margin: 10px; width: 60px;height:30px;
cursor:pointer;border-radius:5px;
    }     button:hover{
color:white;
background: black;
    }
</style>
</head>
<body>
       <h1>find the Longest Palindromic Substring</h1>
       <form class="fall" name="funcitons"
action="<%=request.getContextPath()%>/functions" method="post">
            Enter the Palindromic String: <input class="check" type="text" name="pal"
size="50"><br>
            <button type="submit">Submit</button>
            <button type="reset">Reset</button>
       </form>
       <h1> longest Palindromic SubString <br/> <%=request.getAttribute("ans")
%></h1>
</body>
</html>
```

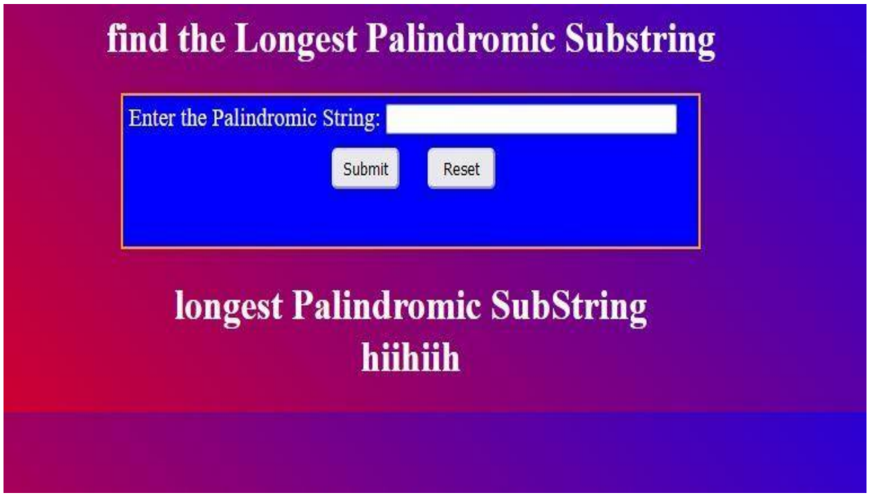
Functions.java

```
package fun;

 import java.io.IOException; import

javax.servlet.ServletException; import

javax.servlet.annotation.WebServlet; import

javax.servlet.http.HttpServlet; import

javax.servlet.http.HttpServletRequest; import

javax.servlet.http.HttpServletResponse;



/**

 * Servlet implementation class functions

 */

@WebServlet(name="functions",urlPatterns={"/functions"}) public

class functions extends HttpServlet {

	protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
		String a=request.getParameter("pal");

//		String fun=request.getParameter("fun");

		try {

//			System.out.println(a+fun);

			int n=a.length();

			String ans;
			if(n<=1) {

				ans=a;

				request.setAttribute("ans",ans);


	request.getRequestDispatcher("index.jsp").forward(request,response);

			}
```

```
            else {
                int len=1,s=0;
                int low,high;
                for(int i=1;i<n;i++) {
                    low=i-1;
                high=i+1;
                    while(high<n&&a.charAt(high)==a.charAt(i)) {
                        high++;
                    }
                    while(high<n&&a.charAt(low)==a.charAt(i)) {
                        low++;
                    }
                    while(low>=0 && high<n &&
a.charAt(low)==a.charAt(high)) {
                        low--;
                    high++;
                    }
                    int length=high-low-1;
                if(len<length) {
            len=length;
    s=low+1;

                    }
                }
                ans=a.substring(s,s+len);
```

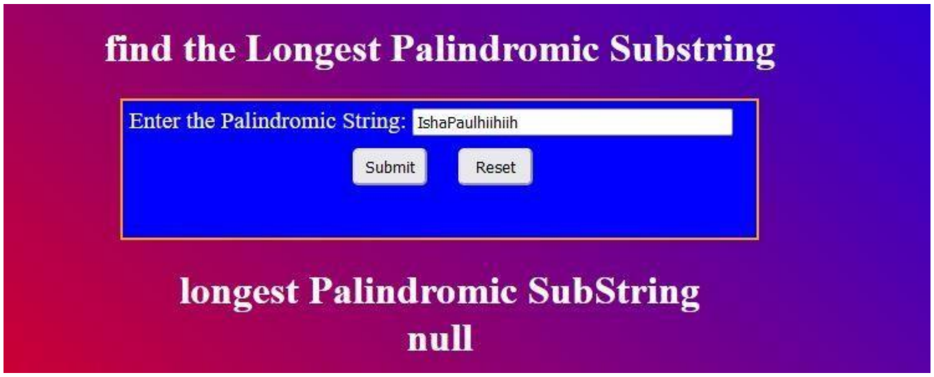
```
                     request.setAttribute("ans",ans);
request.getRequestDispatcher("index.jsp").forward(request,response);
                    }
             }catch(Exception e) {
                    System.out.println(e);
             }
       }
}
```

OUTPUT:


find the Longest Palindromic Substring

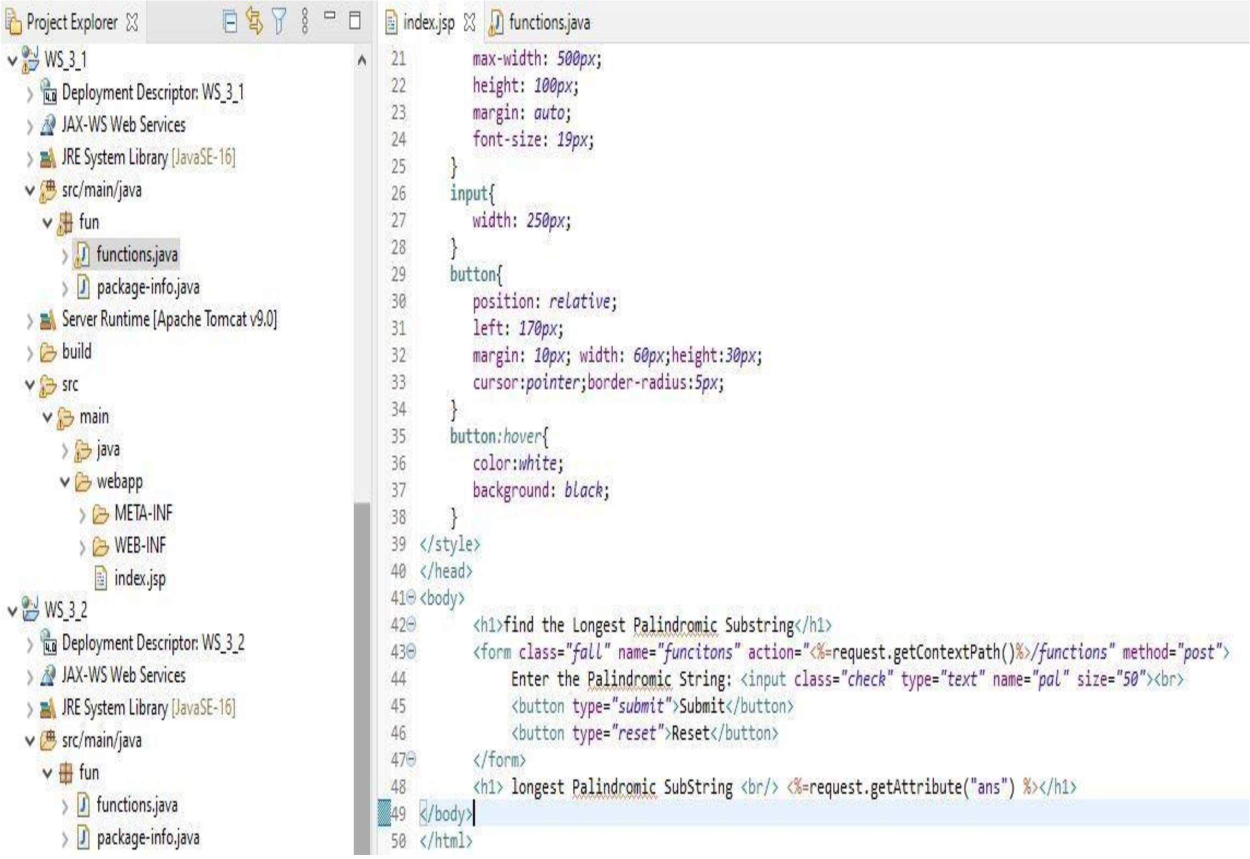
Enter the Palindromic String:

longest Palindromic SubString
hiihiih


find the Longest Palindromic Substring

Enter the Palindromic String: IshaPaulhiihiih

longest Palindromic SubString
null



```
        max-width: 500px;
        height: 100px;
        margin: auto;
        font-size: 19px;
    }
    input{
        width: 250px;
    }
    button{
        position: relative;
        left: 170px;
        margin: 10px; width: 60px;height:30px;
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</html>
```

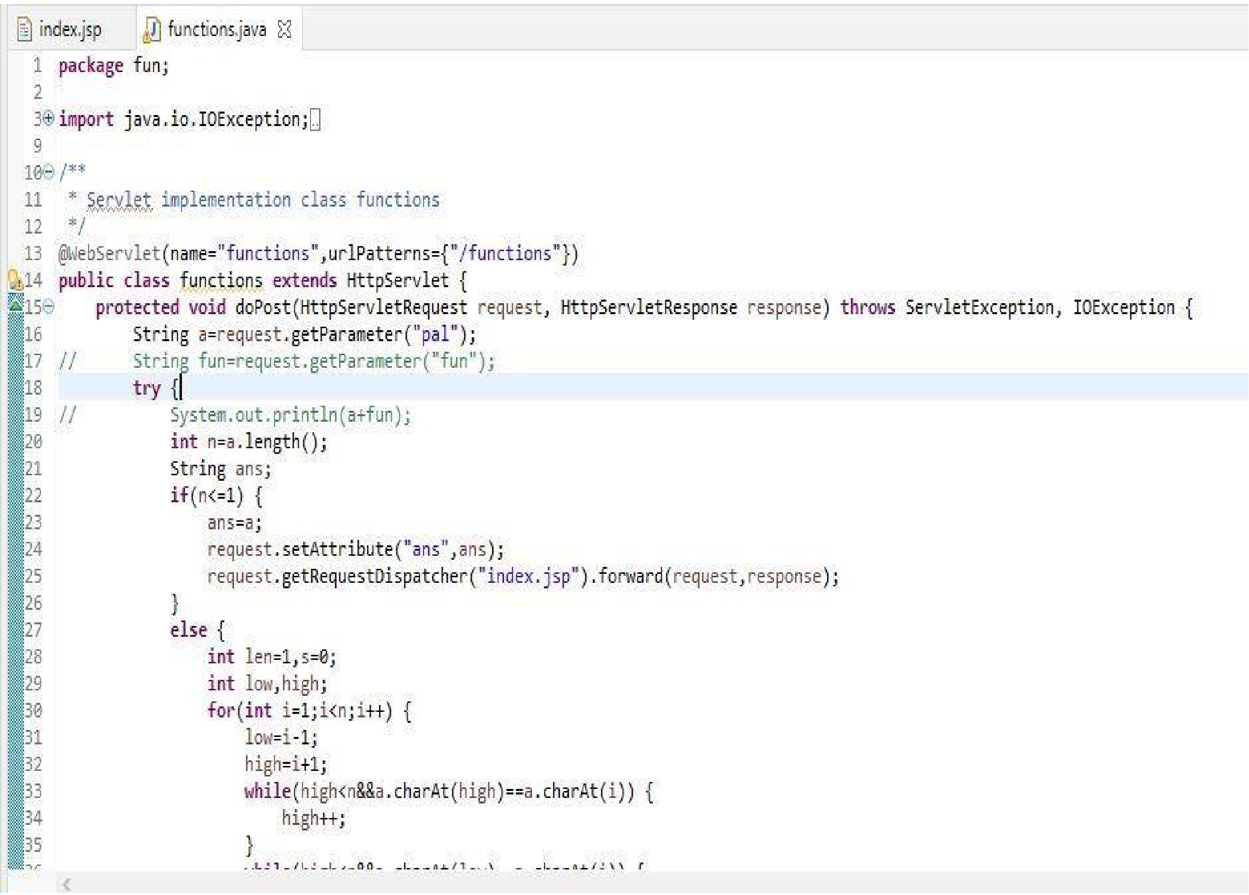

```
package fun;

import java.io.IOException;

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 * Servlet implementation class functions
 */
@WebServlet(name="functions",urlPatterns={"/functions"})
public class functions extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        String a=request.getParameter("pal");
//      String fun=request.getParameter("fun");
        try {
//          System.out.println(a+fun);
            int n=a.length();
            String ans;
            if(n<=1) {
                ans=a;
                request.setAttribute("ans",ans);
                request.getRequestDispatcher("index.jsp").forward(request,response);
            }
            else {
                int len=1,s=0;
                int low,high;
                for(int i=1;i<n;i++) {
                    low=i-1;
                    high=i+1;
                    while(high<n&&a.charAt(high)==a.charAt(i)) {
                        high++;
                    }
                    while(high<n&&a.charAt(low)==a.charAt(i)) {
```

Learning outcomes (What I have learnt):

1. Learn About the servlet
2. Learn about jsp and dynamic web project
3. Learn about the tomcat server and its integrations with the java.