Experiment 3.1

Student Name: Lipakshi	UID: 20BCS5082
Branch: BE-CSE	Section/Group: 607 B
Semester: 5th	Subject Name : PBLJ Lab

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>
```

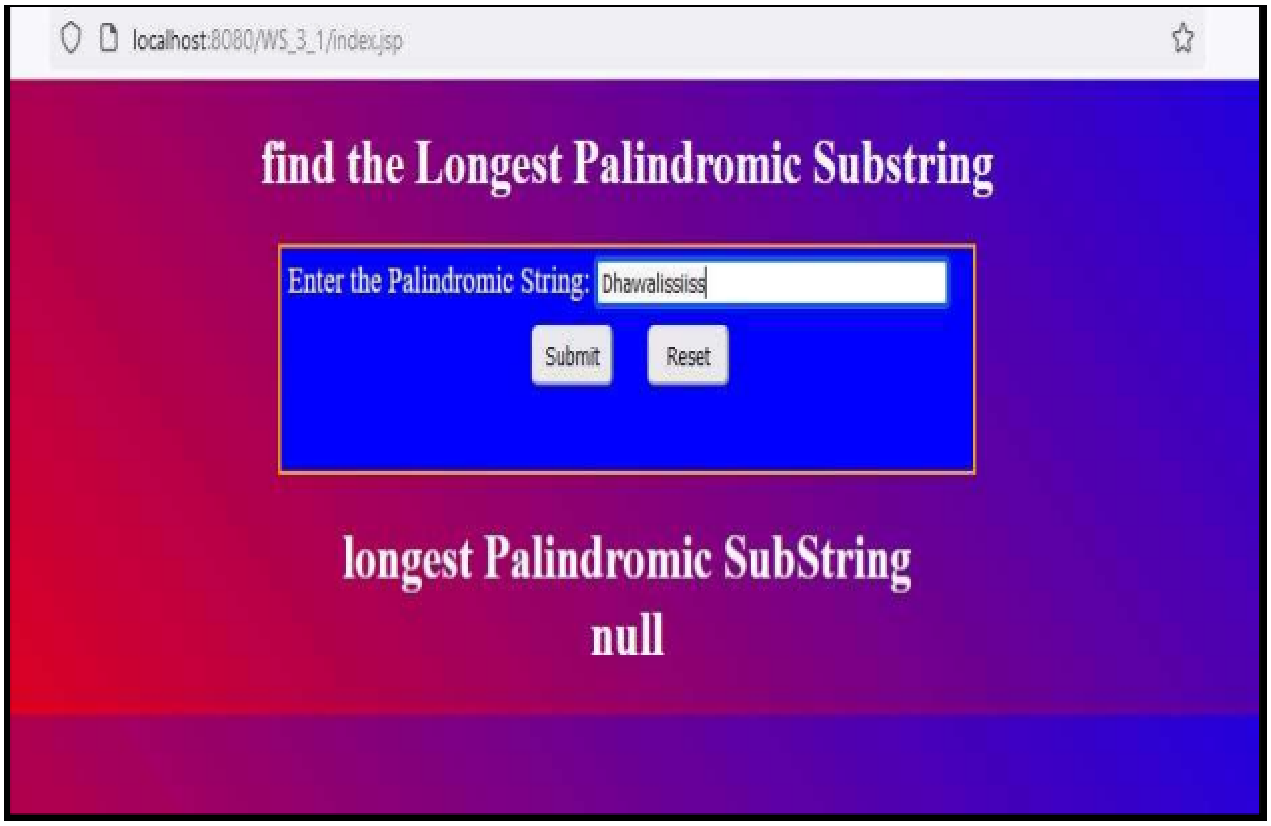
```
                                                    <button type="reset">Reset</button>
                                                </form>
                                                <h1> longest Palindromic SubString <br/>
                                                <%=request.getAttribute("ans")
%></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:

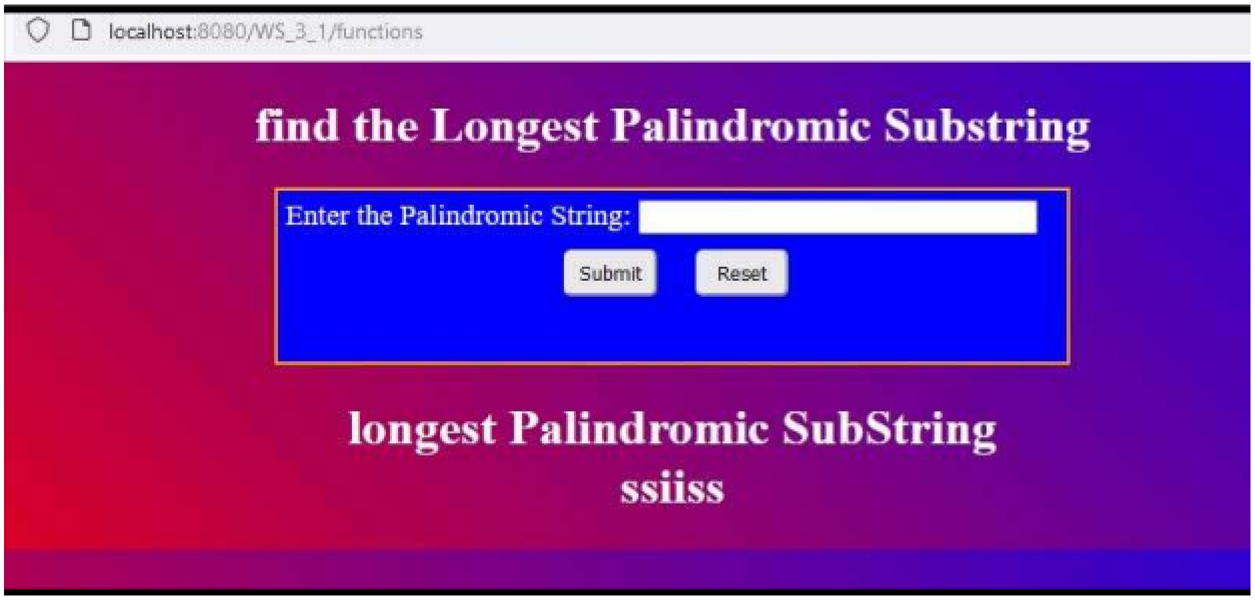


localhost:8080/WS_3_1/index.jsp

find the Longest Palindromic Substring

Enter the Palindromic String: Dhawalissiiss

longest Palindromic SubString
null

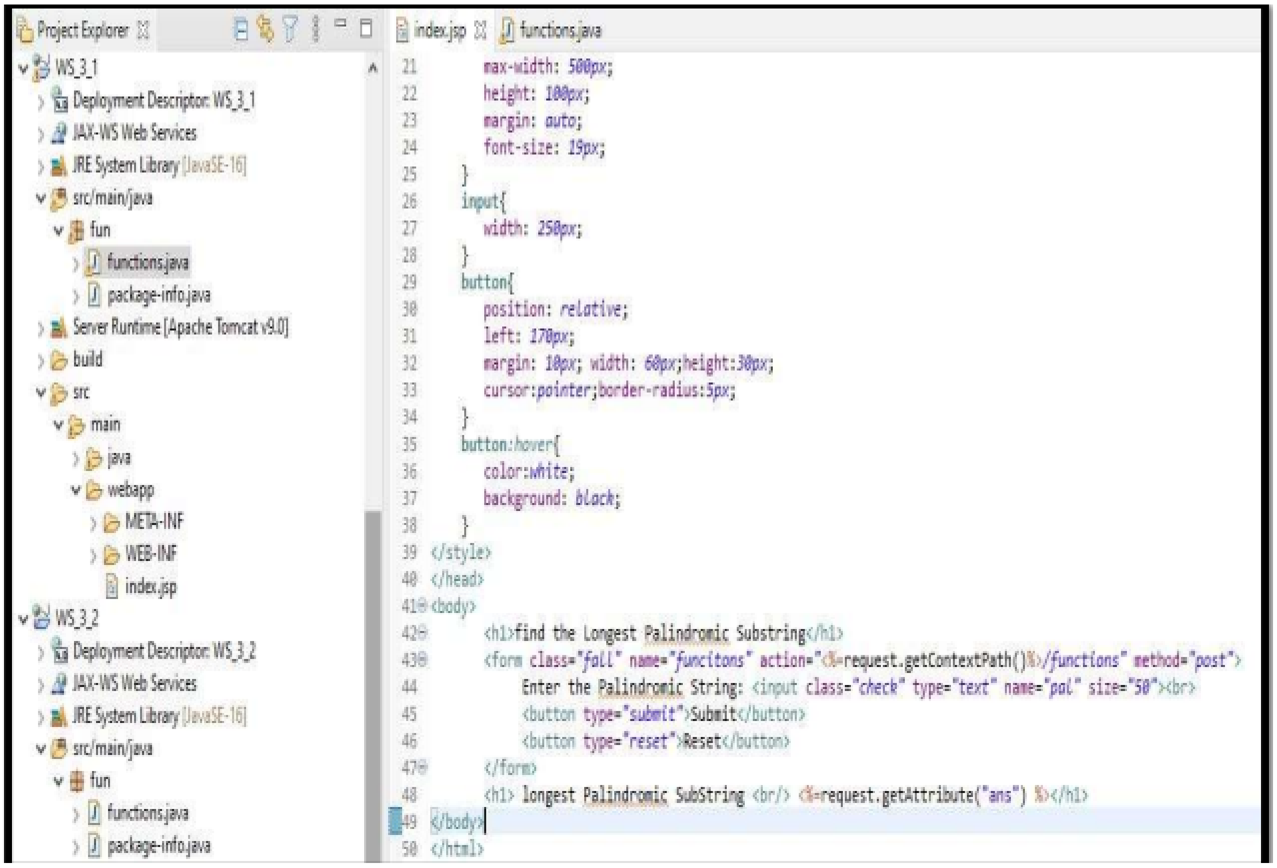


localhost:8080/WS_3_1/functions

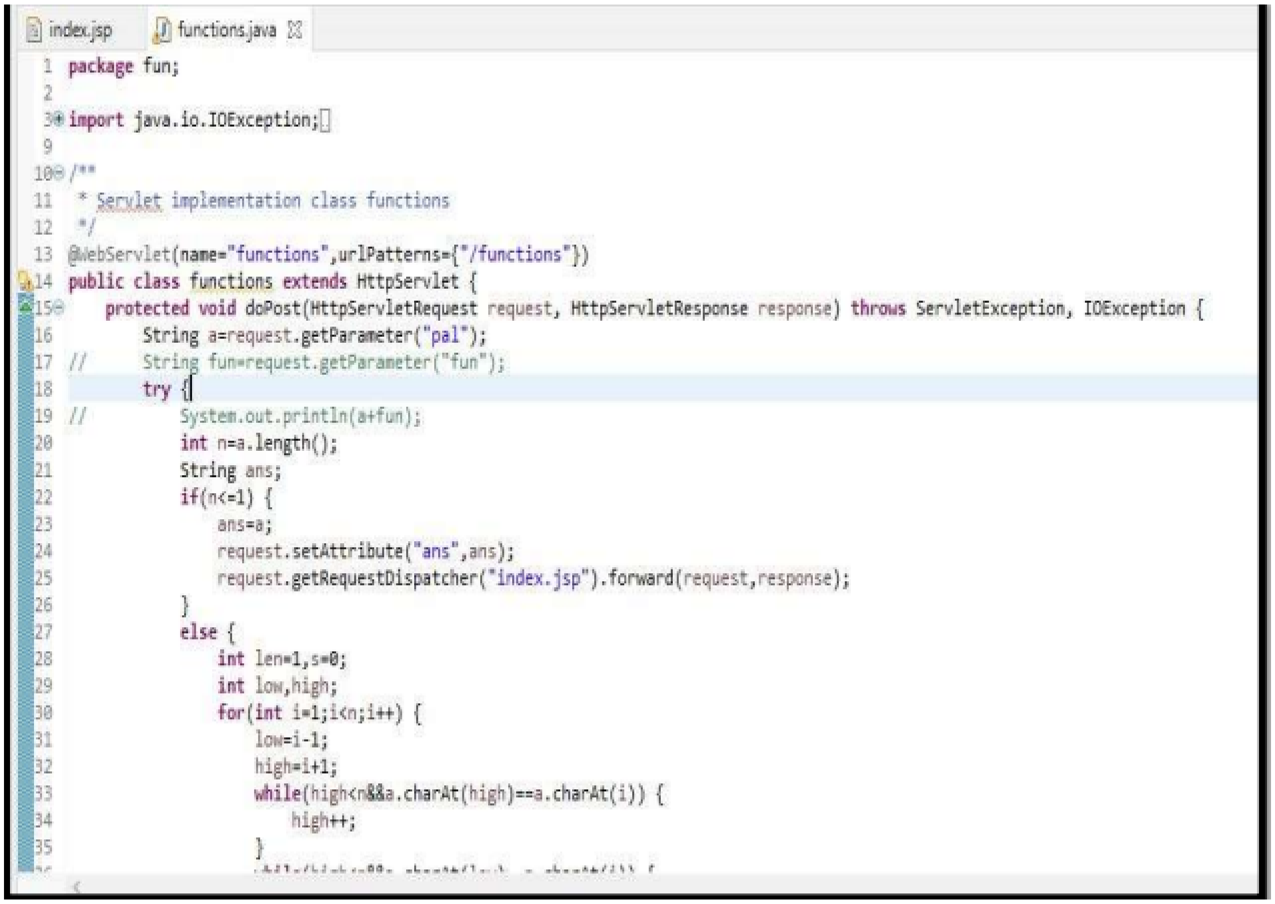
find the Longest Palindromic Substring

Enter the Palindromic String:

longest Palindromic SubString
ssiiss



```
        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="foll" 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>
```



index.jsp functions.java

```java
package fun;

import java.io.IOException;

/**
 * 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++;
                    }
```

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.