

Experiment 3.1

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Branch: BE-CSE

Section/Group: 902WM 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);    background-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;

```

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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;

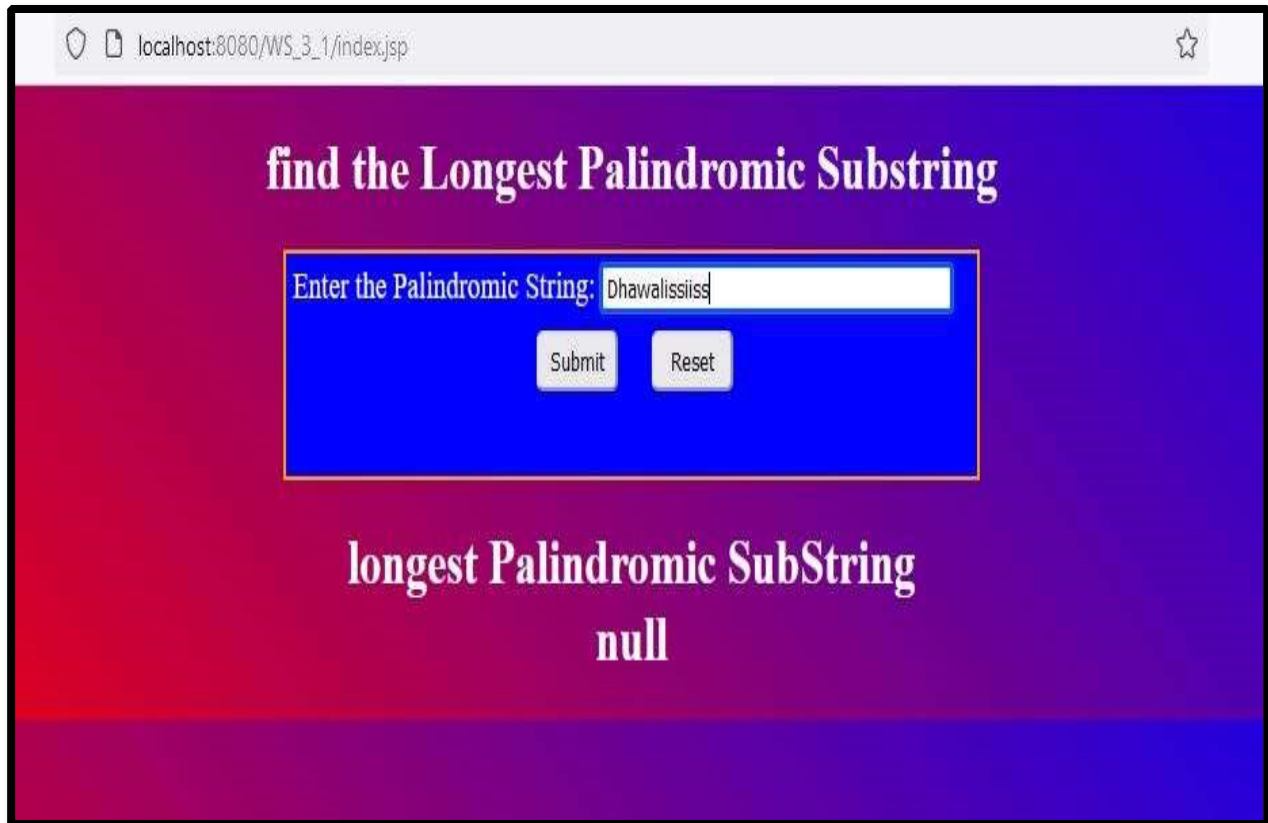
                for(int i=1;i<n;i++) {
                    low=i-1;
                    high=i+1;

                    while(high<n&&a.charAt(high)==a.charAt(i)) {
                        high++;
                    }
                }
            }
        }
    }
}
```

```
    }  
    while(high<n&& a.charAt(low)==a.charAt(i)) {  
        low++;  
    }  
    while(low>=0 && high<n &&  
a.charAt(low)==a.charAt(high)) {  
        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:

longest Palindromic SubString
null



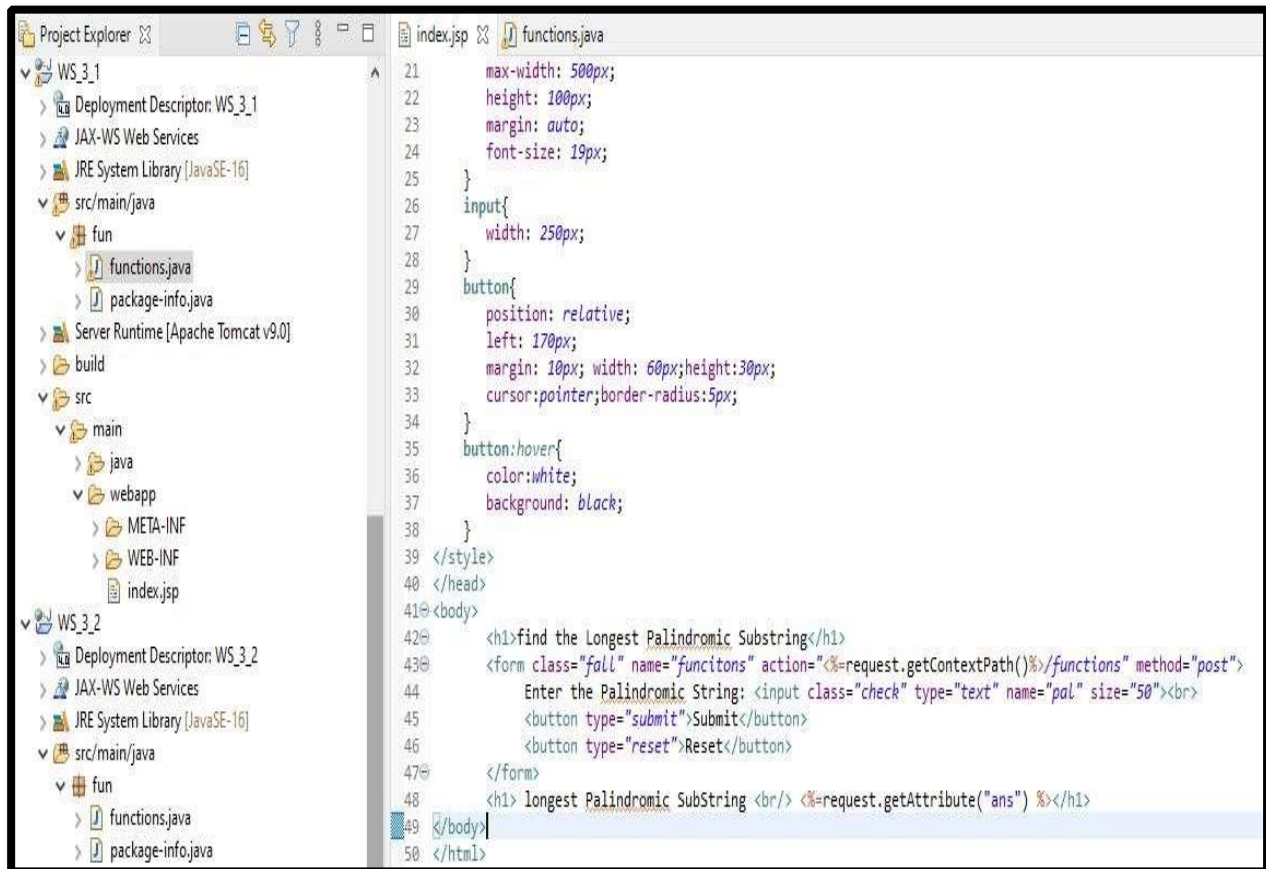
localhost:8080/WS_3_1/functions

find the Longest Palindromic Substring

Enter the Palindromic String:

longest Palindromic SubString
ssiiss

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The screenshot shows an IDE window with two panes. The left pane is the Project Explorer, showing a project structure with two web services, WS_3_1 and WS_3_2. The right pane is the code editor, displaying the content of index.jsp. The code includes CSS styles for an input field and a button, and an HTML form with a submit button and a reset button. The form action is set to a URL that calls the functions.java file.

```
21     max-width: 500px;
22     height: 100px;
23     margin: auto;
24     font-size: 19px;
25 }
26 input{
27     width: 250px;
28 }
29 button{
30     position: relative;
31     left: 170px;
32     margin: 10px; width: 60px; height: 30px;
33     cursor: pointer; border-radius: 5px;
34 }
35 button:hover{
36     color: white;
37     background: black;
38 }
39 </style>
40 </head>
41 <body>
42 <h1>find the Longest Palindromic Substring</h1>
43 <form class="fall" name="funcitons" action="<%=request.getContextPath()%>/functions" method="post">
44     Enter the Palindromic String: <input class="check" type="text" name="pal" size="50"><br>
45     <button type="submit">Submit</button>
46     <button type="reset">Reset</button>
47 </form>
48 <h1> longest Palindromic SubString <br/> <%=request.getAttribute("ans") %></h1>
49 </body>
50 </html>
```

```
index.jsp functions.java x
1 package fun;
2
3 import java.io.IOException;
9
10 /**
11  * Servlet implementation class functions
12  */
13 @WebServlet(name="functions",urlPatterns={"/functions"})
14 public class functions extends HttpServlet {
15     protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
16         String a=request.getParameter("pal");
17         // String fun=request.getParameter("fun");
18         try {
19             // System.out.println(a+fun);
20             int n=a.length();
21             String ans;
22             if(n<=1) {
23                 ans=a;
24                 request.setAttribute("ans",ans);
25                 request.getRequestDispatcher("index.jsp").forward(request,response);
26             }
27             else {
28                 int len=1,s=0;
29                 int low,high;
30                 for(int i=1;i<n;i++) {
31                     low=i-1;
32                     high=i+1;
33                     while(high<n&&a.charAt(high)==a.charAt(i)) {
34                         high++;
35                     }
36                 }
37             }
38         }
39     }
40 }
```

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.