Practical_01

Q1. video

Q2. video

Q3. video

Practical_02

video

practical_03

Q1. video

Q2. video

Q3. video

Practical_04

video

practical_06

video

practical_07

website

P1q1server

Temp_converter.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.WebParam;

/**
 *
 * @author OMKAR SINGH
 */
@WebService(serviceName = "temp_converter")
public class temp_converter {

    /**
     * Web service operation
     */
    @WebMethod(operationName = "celsius_to_fahrenhite")
    public Float celsius_to_fahrenhite(@WebParam(name = "temperature") float temperature) {
        //TODO write your implementation code here:
        return (temperature*9/5)+32;
    }

    /**
     * Web service operation
     */
    @WebMethod(operationName = "fahrenhite_to_celsius")
    public Float fahrenhite_to_celsius(@WebParam(name = "temperature") float temperature) {
        //TODO write your implementation code here:
        return (temperature-32)*5/9;
    }


}
```

P1q1client

Index.jsp

```jsp
<%--
    Document   : index
    Created on : 27 Apr, 2024, 9:36:20 PM
    Author     : OMKAR SINGH
--%>
```

```jsp
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <form action="index.jsp">
            Enter a Temperature :<input type="text" name="temperature"/><br/><br/>
            <input value="celsius" name="type" type="submit"/>
            <input value="fahrenhite" name="type" type="submit"/>
        </form>

    <%-- start web service invocation --%><hr/>
    <%
    try {
    ws.TempConverter_Service service = new ws.TempConverter_Service();
    ws.TempConverter port = service.getTempConverterPort();
     // TODO initialize WS operation arguments here
    float temperature = Float.parseFloat(request.getParameter("temperature"));
        String check=request.getParameter("type");
        float result=0.0f;// set default result zero
        if(check.equals("celsius")){
            result = port.celsiusToFahrenhite(temperature);
        }
        else{
            result = port.fahrenhiteToCelsius(temperature);
        }
    out.println("Result = "+result);
    } catch (Exception ex) {
    // TODO handle custom exceptions here
    }
    %>
    <%-- end web service invocation --%><hr/>
    </body>
</html>
```

P1q2server

Collegewebservice.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import java.util.ArrayList;
import javax.jws.WebService;
```

```java
import javax.jws.WebMethod;
import javax.jws.WebParam;

/**
 *
 * @author OMKAR SINGH
 */
@WebService(serviceName = "CollegeWebService")
public class CollegeWebService {
    ArrayList CName;
    ArrayList fees;
    ArrayList cutoff;

    public CollegeWebService() {
        CName=new ArrayList();
        fees=new ArrayList();
        cutoff=new ArrayList();


        CName.add("CS");
        CName.add("IT");
        CName.add("B.com");
        CName.add("BBI");
        CName.add("BMS");

        fees.add(36000.0);
        fees.add(28000.0);
        fees.add(8000.0);
        fees.add(17000.0);
        fees.add(12000.0);

        cutoff.add(67.0);
        cutoff.add(72.0);
        cutoff.add(70.0);
        cutoff.add(80.0);
        cutoff.add(78.0);
    }

    /**
     * Web service operation
     */
    @WebMethod(operationName = "getCuttOff")
    public double getCuttOff(@WebParam(name = "CourseName") String CourseName) {
        int i=CName.indexOf(CourseName);
        double res=0.0;
        if(i>=0){
            res=(double) cutoff.get(i);
        }
        return res;
    }

    /**
     * Web service operation
     */
```

```java
        @WebMethod(operationName = "getFees")
        public double getFees(@WebParam(name = "CourseName") String CourseName) {
            int i=CName.indexOf(CourseName);
            double res=0.0;
            if(i>=0){
                res=(double) fees.get(i);
            }
            return res;
        }
    }

}
```

P1q2client

Collegeservlet.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.xml.ws.WebServiceRef;

/**
 *
 * @author OMKAR SINGH
 */
@WebServlet(name = "CollegeServlet", urlPatterns = {"/CollegeServlet"})
public class CollegeServlet extends HttpServlet {

    @WebServiceRef(wsdlLocation = "WEB-
INF/wsdl/localhost_8080/p1q2server/CollegeWebService.wsdl")
    private CollegeWebService_Service service;

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
     * methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
```

```java
        */
    protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            /* TODO output your page here. You may use following sample code. */
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet CollegeServlet</title>");
            out.println("</head>");
            out.println("<body>");
            String CName=request.getParameter("crs");
            String group=request.getParameter("grp");
            if(group.equals("getFees")){
                out.println(CName +" fees is :"+getFees(CName));
            }
            if(group.equals("getCutOff")){
                out.println(CName +" cutoff is :"+getCuttOff(CName)); // name mistake but
it run
            }
            out.println("</body>");
            out.println("</html>");
        }
    }

    // <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the +
sign on the left to edit the code.">
    /**
     * Handles the HTTP <code>GET</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    /**
     * Handles the HTTP <code>POST</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
```

```java
        processRequest(request, response);
    }

    /**
     * Returns a short description of the servlet.
     *
     * @return a String containing servlet description
     */
    @Override
    public String getServletInfo() {
        return "Short description";
    }// </editor-fold>

    private double getCuttOff(java.lang.String courseName) {
        // Note that the injected javax.xml.ws.Service reference as well as port objects
are not thread safe.
        // If the calling of port operations may lead to race condition some
synchronization is required.
        ws.CollegeWebService port = service.getCollegeWebServicePort();
        return port.getCuttOff(courseName);
    }

    private double getFees(java.lang.String courseName) {
        // Note that the injected javax.xml.ws.Service reference as well as port objects
are not thread safe.
        // If the calling of port operations may lead to race condition some
synchronization is required.
        ws.CollegeWebService port = service.getCollegeWebServicePort();
        return port.getFees(courseName);
    }

}
```

Index.html

```html
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<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 action="CollegeServlet">
            Enter Course Name :<input type="text" name="crs"/>
```

```html
            <br/>
            <input type="radio" name="grp" value="getFees"/>Check Fees<br/>
            <input type="radio" name="grp" value="getCutOff"/>Check CutOff<br/>
            <input type="submit" value="Submit"/>
        </form>
    </body>
</html>
```

P1q3server

Myws.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import javax.annotation.Resource;
import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.WebParam;
import javax.sql.DataSource;

/**
 *
 * @author OMKAR SINGH
 */
@WebService(serviceName = "myws")
public class myws {

    @Resource(name = "mydsn")
    private DataSource mydsn;

    /**
     * Web service operation
     */
    @WebMethod(operationName = "getName")
    public String getName(@WebParam(name = "id") int id) {
        //TODO write your implementation code here:
        try{
            Connection c =mydsn.getConnection();
            String query="select * from FRIENDS where id=?";
            PreparedStatement ps=c.prepareStatement(query);
            ps.setInt(1, id);
            ResultSet r=ps.executeQuery();
            if(r.next()){
                return r.getString(2);
            }
```

```java
            else{
                return "No Name Found by Given ID";
            }

        }
        catch(Exception e){
            return e.getMessage();
        }
    }

    /**
     * Web service operation
     */
    @WebMethod(operationName = "insert")
    public String insert(@WebParam(name = "id") int id, @WebParam(name = "Name") String
Name) {
        //TODO write your implementation code here:
        try{
            Connection c=mydsn.getConnection();
            String query="insert into FRIENDS (id,name) values(?,?)";
            PreparedStatement ps=c.prepareStatement(query);
            ps.setInt(1, id);
            ps.setString(2, Name);
            ps.executeUpdate();
            return "Data Inserted";
        }
        catch(Exception e){
            return e.getMessage();
        }

    }

}
```

P1q3client

Index.html

```html
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<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>
```

```html
        <h2>one way operations</h2>
        <form action="insertData.jsp" method="GET">
            <input type="text" name="txt1" placeholder="Enter a ID"/><br/>
        <input type="text" name="txt2" placeholder="Enter a Name"/><br/>
        <input type="submit" value="INSERT"/><br/>
        </form>


        <h1>--------------------------------------------------------------------</h1>
        <h2>Request-Response operation</h2>
        <form action="getData.jsp" method="GET">
            <input type="text" name="txt3" placeholder="Enter a ID"/>
        <input type="submit"  value="READ DATA" />
        </form>


    </body>
</html>
```

getData.jsp

```jsp
<%--
    Document    : getData
    Created on  : 28 Apr, 2024, 12:40:20 AM
    Author      : OMKAR SINGH
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>

    <%-- start web service invocation --%><hr/>
    <%
    try {
    ws.Myws_Service service = new ws.Myws_Service();
    ws.Myws port = service.getMywsPort();
     // TODO initialize WS operation arguments here
    int id = Integer.parseInt(request.getParameter("txt3"));
    // TODO process result here
    java.lang.String result = port.getName(id);
    out.println("Name = "+result);

    } catch (Exception ex) {
    // TODO handle custom exceptions here
    }
    %>
    <%-- end web service invocation --%><hr/>
    </body>
</html>
```

insertData.jsp

```jsp
<%--
    Document   : insertData
    Created on : 28 Apr, 2024, 12:39:14 AM
    Author     : OMKAR SINGH
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>

        <%-- start web service invocation --%><hr/>
        <%
        try {
        ws.Myws_Service service = new ws.Myws_Service();
        ws.Myws port = service.getMywsPort();
         // TODO initialize WS operation arguments here
        int id = Integer.parseInt(request.getParameter("txt1"));
        java.lang.String name = request.getParameter("txt2");
        // TODO process result here
        java.lang.String result = port.insert(id, name);
        out.println("Result = "+result);
        } catch (Exception ex) {
        // TODO handle custom exceptions here
        }
        %>
        <%-- end web service invocation --%><hr/>
    </body>
</html>
```

P2q1server

inrtoDollar.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.WebParam;

/**
```

```
 *
 * @author OMKAR SINGH
 */
@WebService(serviceName = "InrtoDollar")
public class InrtoDollar {

    /**
     * Web service operation
     */
    @WebMethod(operationName = "InrtoDollar")
    public String InrtoDollar(@WebParam(name = "a") double a) {
        //TODO write your implementation code here:
        return "The indian Rupees "+a+" in dollars is "+(a/83.17);
    }


}
```

P2q1client

Index.jsp

```
<%--
    Document   : index
    Created on : 28 Apr, 2024, 1:44:32 AM
    Author     : OMKAR SINGH
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <form action="index.jsp">
            Enter currency in rs:<br/>
            <input type="text" name="t1"/><br/>
            <input type="submit"/>
        </form>

    <%-- start web service invocation --%><hr/>
    <%
    try {
    ws.InrtoDollar_Service service = new ws.InrtoDollar_Service();
    ws.InrtoDollar port = service.getInrtoDollarPort();
     // TODO initialize WS operation arguments here
    double a = Double.parseDouble(request.getParameter("t1"));

    // TODO process result here
    java.lang.String result = port.inrtoDollar(a);
    out.println("Result = "+result);
```

```
        } catch (Exception ex) {
        // TODO handle custom exceptions here
        }
        %>
        <%-- end web service invocation --%><hr/>
        </body>
</html>
```

In p3q1 is all process, there no code .

P3q2

StringOperation.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package StringOperationsPackage;

import javax.ws.rs.core.Context;
import javax.ws.rs.core.UriInfo;
import javax.ws.rs.Produces;
import javax.ws.rs.Consumes;
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.PUT;
import javax.ws.rs.core.MediaType;

/**
 * REST Web Service
 *
 * @author OMKAR SINGH
 */
@Path("generic")
public class StringOperations {

    @Context
    private UriInfo context;

    /**
     * Creates a new instance of StringOperations
     */
    public StringOperations() {
    }

    /**
     * Retrieves representation of an instance of StringOperationsPackage.StringOperations
     * @return an instance of java.lang.String
```

```java
    */
    @GET
    @Produces(MediaType.TEXT_HTML)
    public String getHtml() {
        //TODO return proper representation object
        throw new UnsupportedOperationException();
    }

    /**
     * PUT method for updating or creating an instance of StringOperations
     * @param content representation for the resource
     */
    @PUT
    @Consumes(MediaType.TEXT_HTML)
    public void putHtml(String content) {
    }

    @PUT
    @Consumes(MediaType.TEXT_HTML)
    @Path("/uppercase")
    public String UpperCase(String str) {
        return str.toUpperCase();
    }
    @PUT
    @Consumes(MediaType.TEXT_HTML)
    @Path("/lowercase")
    public String LowerCase(String str) {
        return str.toLowerCase();
    }
}
```

In p3q3 is all process, there no code .

P4server

imageWS.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ws;

import java.io.BufferedInputStream;
import java.io.BufferedOutputStream;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import javax.jws.Oneway;
```

```java
import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.WebParam;

/**
 *
 * @author OMKAR SINGH
 */
@WebService(serviceName = "ImageWS")
public class ImageWS {

    /**
     * Web service operation
     */
    @WebMethod(operationName = "upload")
    @Oneway
    public void upload(@WebParam(name = "filename") String filename, @WebParam(name =
"imageBytes") byte[] imageBytes) {
        //it location where client file saved.
        String filePath="D:\\CCW\\server\\"+filename;
        try{
            FileOutputStream fos=new FileOutputStream(filePath);
            BufferedOutputStream bos=new BufferedOutputStream(fos);
            bos.write(imageBytes);
            bos.close();
            System.out.println("Recieved file :"+filePath);
        }
        catch(Exception ex){
            System.out.println(ex.getMessage());
        }
    }

    /**
     * Web service operation
     */
    @WebMethod(operationName = "download")
    public byte[] download(@WebParam(name = "filename") String filename) {
        System.out.println("Sending file :"+filename);
        try{
            File file=new File(filename);
            FileInputStream fis=new FileInputStream(file);
            BufferedInputStream bis=new BufferedInputStream(fis);
            byte[] fileBytes=new byte[(int)file.length()];
            bis.read(fileBytes);
            return fileBytes;
        }
        catch(Exception ex){
            System.out.println(ex.getMessage());
        }
        return null;
    }

}
```

P4client

Index.jsp

```jsp
<%--
    Document   : index
    Created on : 29 Apr, 2024, 9:35:57 PM
    Author     : OMKAR SINGH
--%>

<%@page import="java.io.BufferedOutputStream"%>
<%@page import="java.io.FileOutputStream"%>
<%@page import="java.io.File"%>
<%@page import="java.io.BufferedInputStream"%>
<%@page import="java.io.FileInputStream"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <!-- first import upload-->

    <%-- start web service invocation --%><hr/>
    <%
    try {
    ws.ImageWS_Service service = new ws.ImageWS_Service();
    ws.ImageWS port = service.getImageWSPort();
        //it file upload to server folder
    java.lang.String filePath = "D:\\CCW\\client\\upload\\upload.png";
        File file=new File(filePath);
        String filename=file.getName();
        FileInputStream fis=new FileInputStream(file);
        BufferedInputStream bis=new BufferedInputStream(fis);
    byte[] imageBytes = new byte[(int)file.length()];
        bis.read(imageBytes);
    port.upload(filename, imageBytes);
        bis.close();
        out.println("File uploaded :"+filePath);
    } catch (Exception ex) {
    out.println("error :"+ex.getMessage());
    }
    %>
    <%-- end web service invocation --%><hr/>

    <%-- start web service invocation --%><hr/>
    <%
    try {
    ws.ImageWS_Service service = new ws.ImageWS_Service();
    ws.ImageWS port = service.getImageWSPort();
```

```java
java.lang.String filename = "upload.png";
    //client download folder
    String downloadfilePath="D:\\CCW\\client\\download\\"+filename;
    //it file where file saved in server folder.
    java.lang.String server_file = "D:\\CCW\\server\\upload.png";
byte[] fileByte = port.download(server_file);
    //download file form server folder
    FileOutputStream fos=new FileOutputStream(downloadfilePath);
    BufferedOutputStream bos=new BufferedOutputStream(fos);
    bos.write(fileByte);
    bos.close();
out.println("File downloaded :"+downloadfilePath);
} catch (Exception ex) {
out.println("error :"+ex.getMessage());
}
%>
<%-- end web service invocation --%><hr/>
</body>
</html>
```

P6

Index.jsp

```jsp
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>Google Map</title>
    <style>
        #googleMap {
            height: 400px;
            width: 100%;
        }
    </style>
    </head>
    <body>
        <h1>Google Map</h1>
        <div id="googleMap"></div>
        <script>
        function myMap() {
            //main code ..
            var mapProp = {
                center: new google.maps.LatLng(19.0269, 73.8553),
                zoom: 5
            };
            var map = new google.maps.Map(document.getElementById("googleMap"), mapProp);
            //end code ..
```

```
            //optional code ..
            var marker = new google.maps.Marker({
                position: {lat: 19.0269, lng: 73.8553},
                map: map,
                title: 'Mumbai'
            });


            var infoWindow = new google.maps.InfoWindow({
                content: 'Mumbai, Maharashtra, India'
            });

            marker.addListener('click', function() {
                infoWindow.open(map, marker);
            });
            //end ..
        }
    </script>
        <script
src="https://maps.googleapis.com/maps/api/js?key=your_api_key&callback=myMap"></script>
    </body>
</html>
```