Experiment 1:

Aim: write a JDBC application to implement DDL and DML commands.

Program:

package lab1;

import java.sql.\*;

import java.util.\*;

public class Lab1 {

public static void main(String[] args) throws SQLException, ClassNotFoundException

Scanner s=new Scanner(System.in);

Class.forName("org.apache.derby.jdbc.ClientDriver");

Connection con; con= DriverManager.getConnection("jdbc:derby://localhost:1527/purna","app","app");

Statement st=con.createStatement();

System.out.println("1.create\n 2.insert\n 3.alter\n 4.update\n 5.delete \n 6.retrive data \n

7.Exit");

System.out.println("Enter Option"); int op=s.nextInt(); switch(op)

{

case 1: String sql;

sql = "create table Student"+"(sid INTEGER PRIMARY KEY,"+"sname varchar(20),"+"s1 INTEGER,"+

"s2 INTEGER,"+"s3 INTEGER,"+"s4 INTEGER,"+"s5 INTEGER,"+"s6 INTEGER)"; st.executeUpdate(sql);

System.out.println("table created..."); break;

case 2:

System.out.println("Enter no.of rows to be inserted"); int sno=s.nextInt();

for(int i=0;i<sno;i++)

{

System.out.println("Enter id"); int id=s.nextInt();

System.out.println("Enter name");

String sname=s.next(); System.out.println("Enter s1");

int s1=s.nextInt();

System.out.println("Enter s2");

int s2=s.nextInt();

System.out.println("Enter s3");

int s3=s.nextInt();

System.out.println("Enter s4");

int s4=s.nextInt();

System.out.println("Enter s5"); int s5=s.nextInt();

System.out.println("Enter s6"); int s6=s.nextInt(); String sql1;

sql1="insert into student(sid,sname,s1,s2,s3,s4,s5,s6) values(?,?,?,?,?,?,?,?)" ;

PreparedStatement ps=con.prepareStatement(sql1);

ps.setInt(1,id); ps.setString(2,sname);

ps.setInt(3,s1); ps.setInt(4,s2);

ps.setInt(5,s3); ps.setInt(6,s4);

ps.setInt(7,s5); ps.setInt(8,s6);

int cp=ps.executeUpdate();

}

break;

case 3:

String sql2="alter table student add column Tot integer";

String sql3="alter table student add column grade varchar(2)"; st.executeUpdate(sql2);

st.executeUpdate(sql3);

System.out.println("columns added...."); break; case 4:

System.out.println();

ResultSet rs1 = st.executeQuery("Select \* from student"); while(rs1.next()){ int sid1 = rs1.getInt("sid"); int s11 = rs1.getInt("s1"); int s21 = rs1.getInt("s2"); int s31 = rs1.getInt("s3");

int s41 = rs1.getInt("s4"); int s51 = rs1.getInt("s5"); int s61 = rs1.getInt("s6");

int total = s11+s21+s31+s41+s51+s61; int t = total/6; String gra = "";

if(t >= 90)

{gra = "A";

} else if(t >= 90){

gra = "B";

} else if(t >= 80){

gra = "C";

} else if(t >= 65){

gra ="D";

} else if(t >= 35){

gra = "S";} else if(t < 35){

gra = "F";

}

System.out.println(gra);

String sql4 = "Update student set tot="+total+" ,grade='"+gra+"' where sid=

"+sid1;

try(PreparedStatement pst = con.prepareStatement(sql4)){ int up = pst.executeUpdate();

System.out.println("Table Updated...");

}

}

break; case 5:

System.out.println("Enter ID of studentent to deleted "); int d1 = s.nextInt();

String sql5 = "delete from student where sid="+d1;

try(PreparedStatement pst = con.prepareStatement(sql5))

{

int dp = pst.executeUpdate();

System.out.println("Row Deleted...");

}

break; case 6:

ResultSet rs = st.executeQuery("Select \* from student");

while(rs.next()){

int sid1 = rs.getInt("sid");

String name1 = rs.getString("sname"); int s11 = rs.getInt("s1"); int s21 = rs.getInt("s2"); int s31 = rs.getInt("s3"); int s41 = rs.getInt("s4"); int s51 = rs.getInt("s5");

int s61 = rs.getInt("s6");

System.out.println("Stuno= "+sid1+" Sname= "+name1+" Sub1= "

+s11+" Sub2= "+s21+" Sub3= "+s31+" Sub4= "+s41+" Sub5 "+s51+" Sub6= "+s61);

}

break; case 7:

System.exit(0);

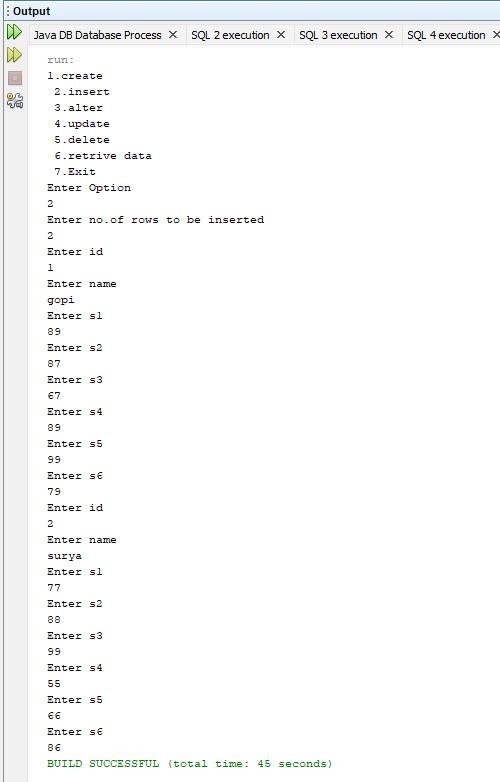
}

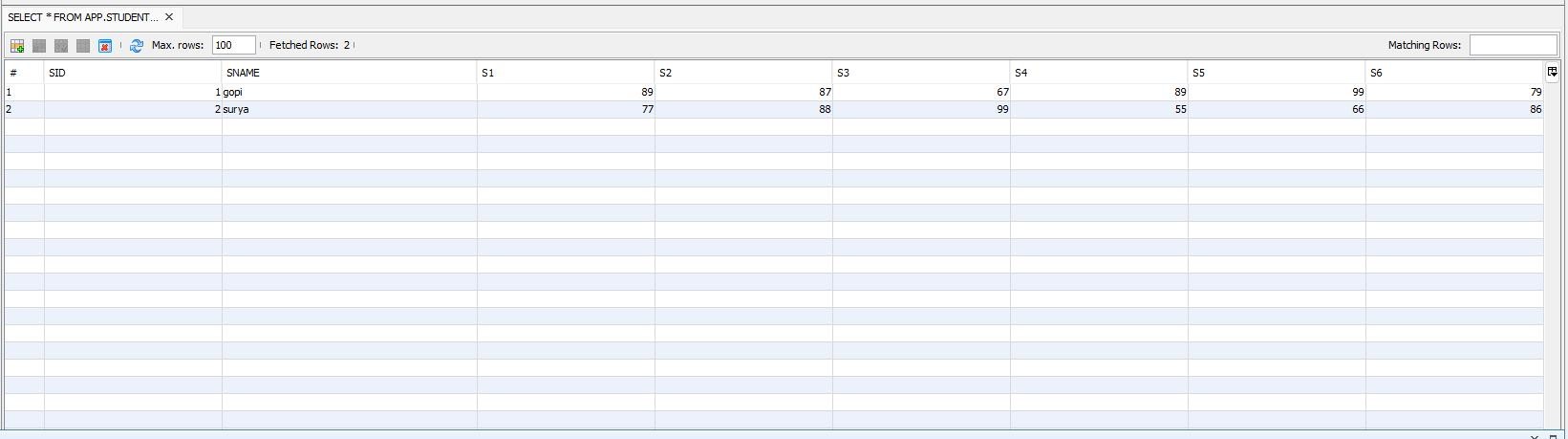
}

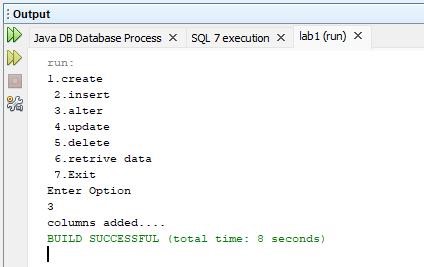
}

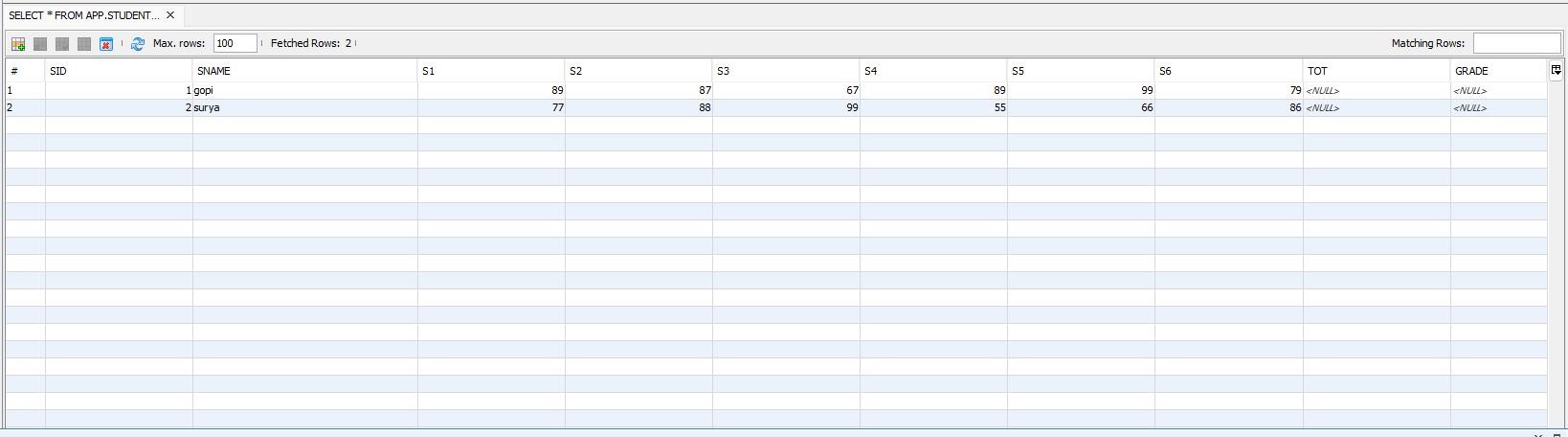
OUTPUTS:

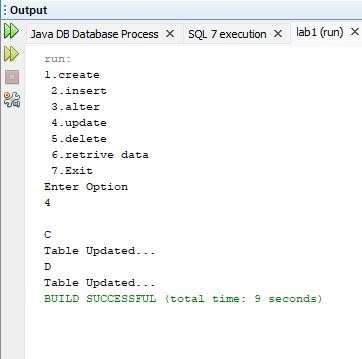


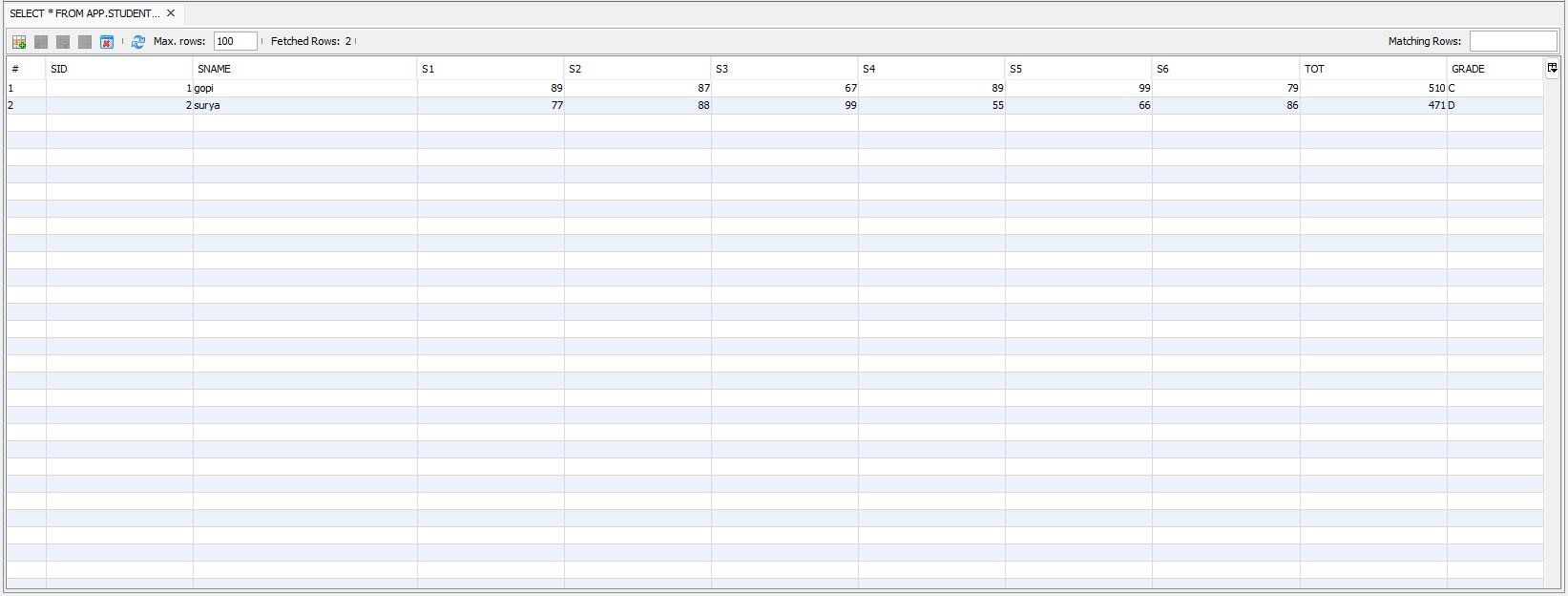














Experiment 2:

Aim: write an application to demonstrate HTTP Servlets.

Program :

package allservlets;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.\*;

import java.util.\*;

import java.sql.\*;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.servlet.RequestDispatcher;

public class firstServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException,ClassNotFoundException,SQLException {

response.setContentType("text/html;charset=UTF-8");

try (PrintWriter out = response.getWriter()) {

String user=request.getParameter("user");

String pass=request.getParameter("pass");

Class.forName("org.apache.derby.jdbc.ClientDriver");

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/sample","app","app");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery("select \* from login1");

String dbuser="";

String dbpass="";

RequestDispatcher rd;

while(rs.next()){

dbuser=rs.getString("username");

dbpass=rs.getString("pass1");

if(user.equals(dbuser) && pass.equals(dbpass) ){

rd=request.getRequestDispatcher("sucessful");

rd.forward(request, response);

break;

}else{

out.println("<h1>login unsucessful </h1>");

rd=request.getRequestDispatcher("/index.html");

rd.include(request, response);

break;

}

}

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the left to //edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(firstServlet.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(firstServlet.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(firstServlet.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(firstServlet.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

Index.html

Top of Form

<!DOCTYPE html>

<html>

<head>

<title>TODO supply a title</title>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

div{

margin:250px;

background-color: #FFEFD6;

border:2px;

padding:10px;

}

</style>

</head>

<body>

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

<div>

<center>login in</center>

<label for="user">enter user name</label>

<input type="text" id="user" name="user" size="50" placeholder="enter your user name" />

<br/>

<label for="pass">enter your password</label>

<input type="password" name="pass" id="pass" size="50" placeholder="enter your password" />

<br/>

<input type="submit" />

</div>

</form>

</body>

</html>

Bottom of Form

Sucessful.java :

package allservlets;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

public class sucessful extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html;charset=UTF-8");

try (PrintWriter out = response.getWriter()) {

out.println("<h1>log in sucessful </h1>");

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the //left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

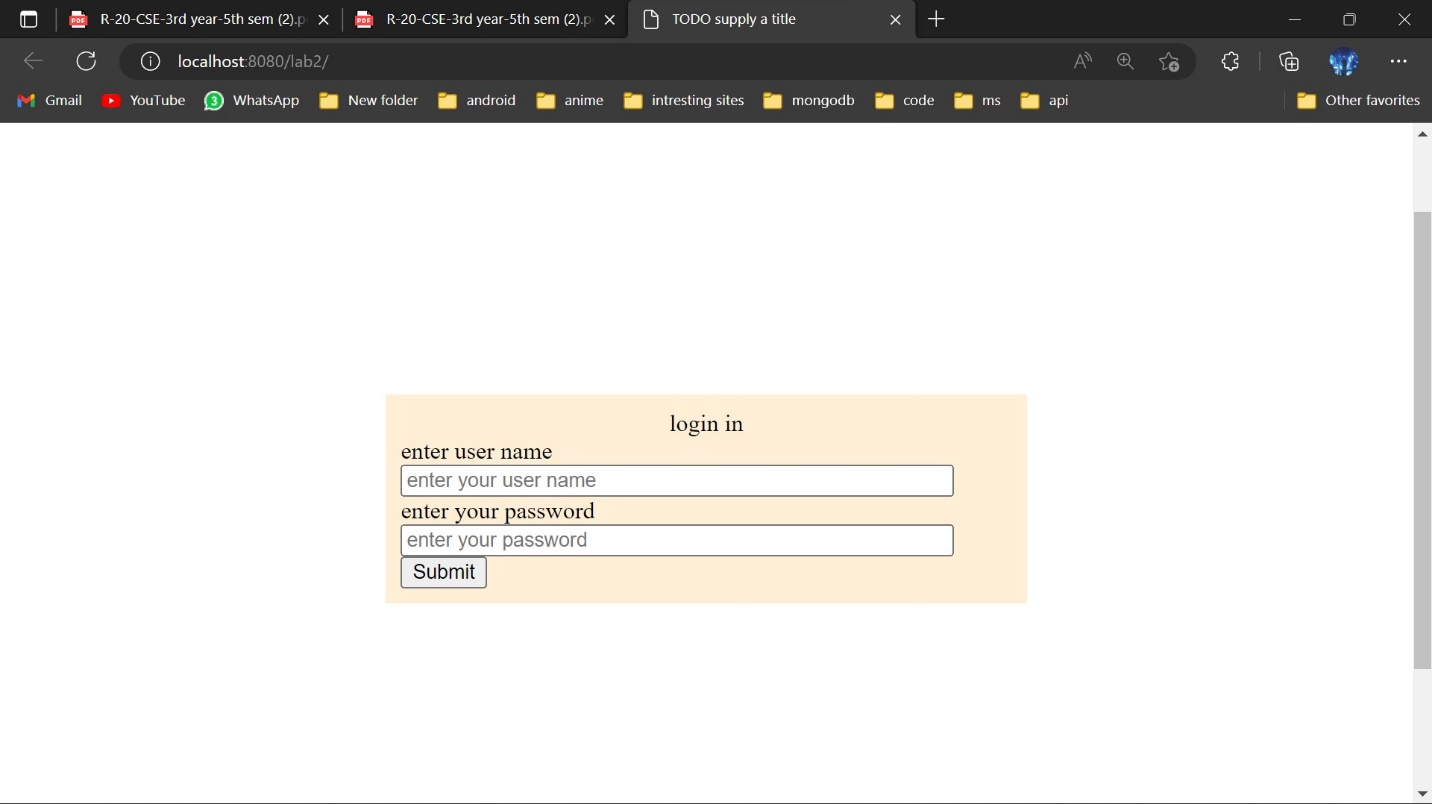
public String getServletInfo() {

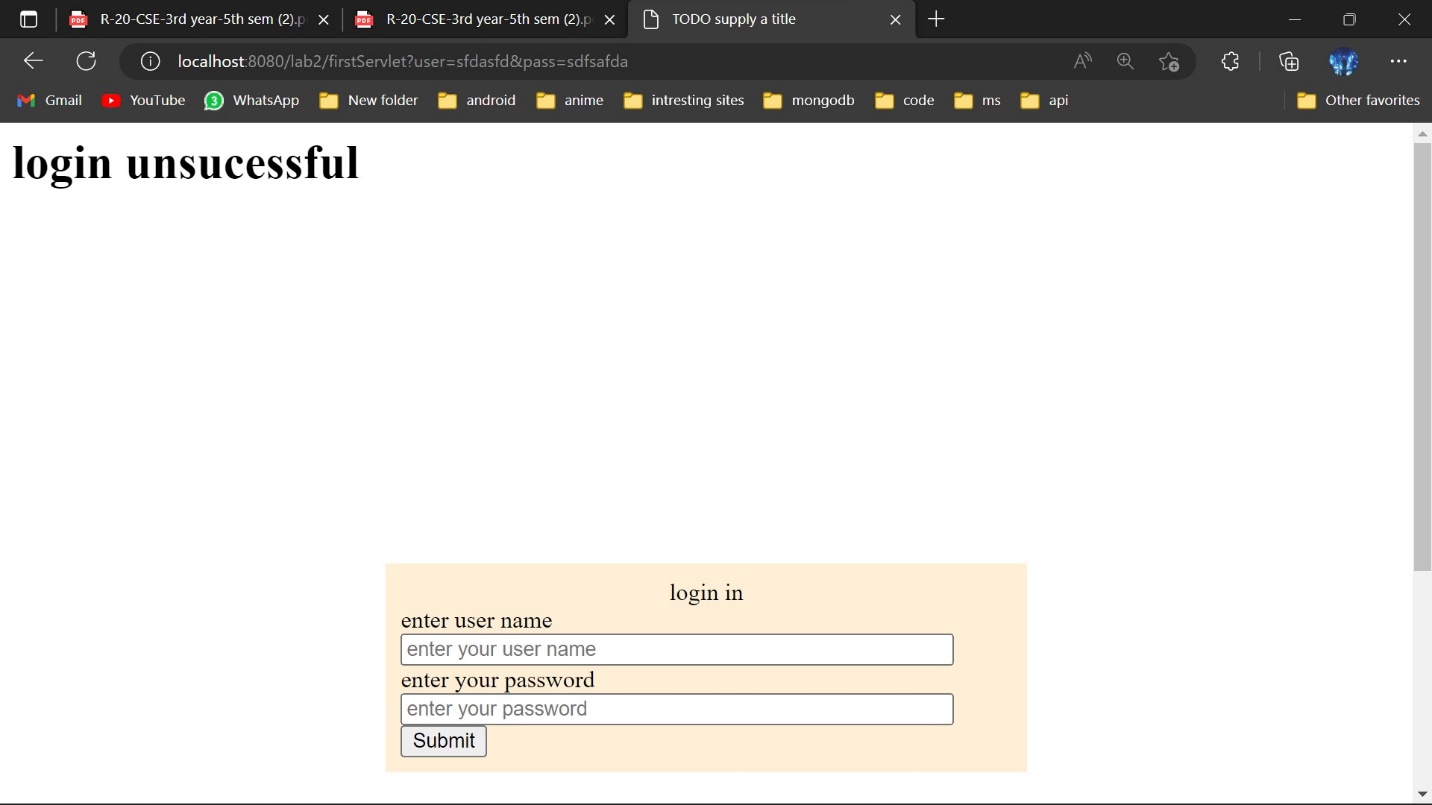
return "Short description";

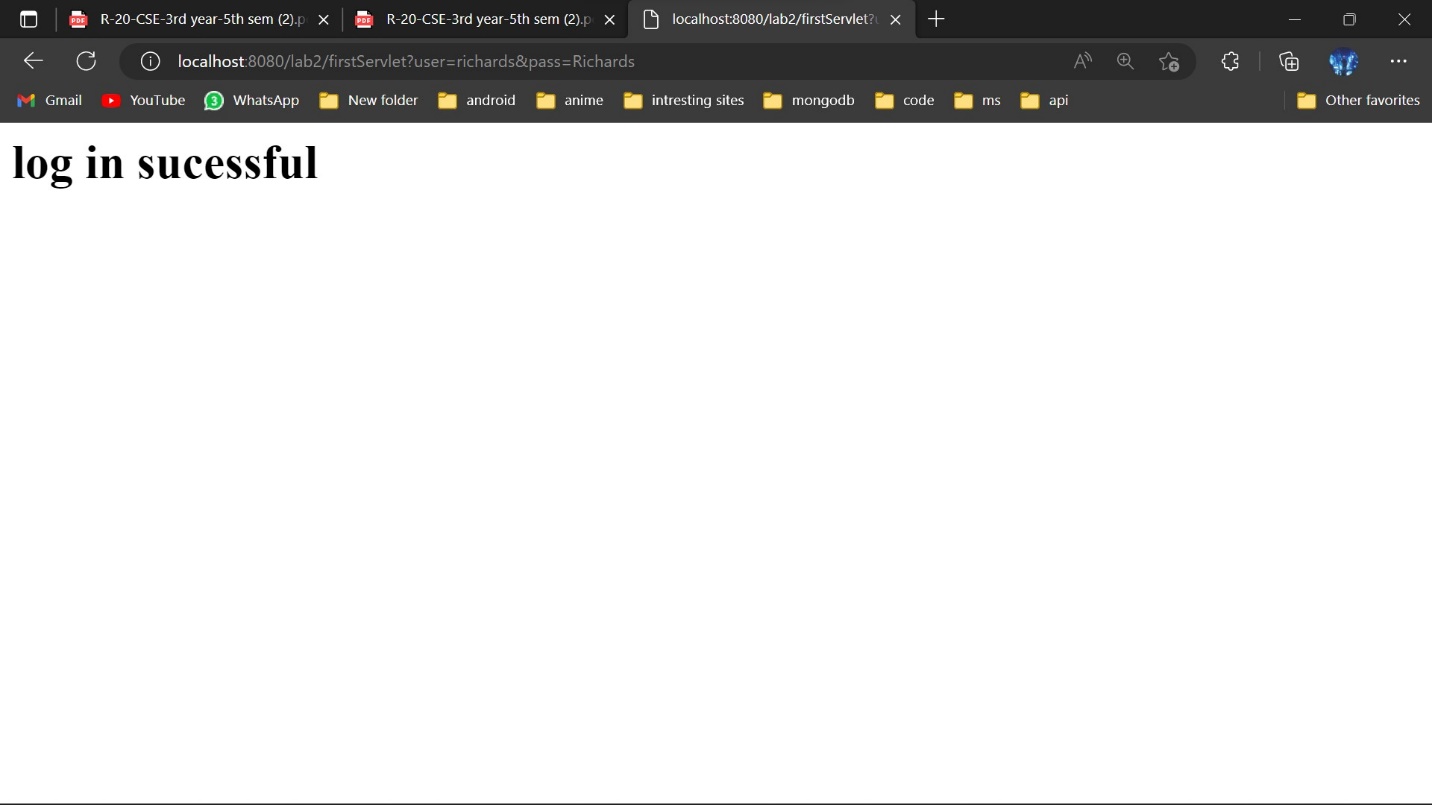
}// </editor-fold>

}

Output :







Experiment 3:

AIM: write a program to demonstrate cookies and sessions

<!DOCTYPE html>

<html>

    <head>

        <title>TODO supply a title</title>

        <meta charset="UTF-8">

        <meta name="viewport" content="width=device-width, initial-scale=1.0">

        <style>

            form{

                border:2px solid;

                width:220px;

                padding:20px;

                background-color: #76c7c0;

                border-radius:10px;

                margin-top:100px;

                margin-left: 300px

            }

            body{

                background-color: #e91e63;

            }

            input{

                border-radius:5px

            }

            input[type='submit']{

                margin-left:45px;

                height:30px;

                width:120px;

                margin-top:10px;

                background-color: cyan

            }

        </style>

    </head>

    <body>

        <form method="get" action="http://localhost:8080/labCycle3/mainServlet">

            <label>ENTER USERNAME</label><br/>

            <input type="text" name="uname" autocomplete="off"/><br/>

            <label>ENTER PASSWORD</label><br/>

            <input type="text" name="password" autocomplete="off"/><br/>

            <input type="submit"/>

        </form>

    </body>

</html>

**Main servlet.java**

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.Cookie;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

@WebServlet(urlPatterns = {"/mainServlet"})

public class mainServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException, ClassNotFoundException, SQLException {

Class.forName("org.apache.derby.jdbc.ClientDriver");

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/sample", "app", "app");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery(("SELECT \* FROM ecom"));

int cnt=0;

String uname=request.getParameter("uname");

String p=request.getParameter("password");

Cookie newCookie=new Cookie("uname",uname);

response.addCookie(newCookie);

newCookie=new Cookie("password",p);

response.addCookie(newCookie);

Cookie[] c=request.getCookies();

int isFound=0,val=0;

for(int i=0;i<c.length;i++)

{

if(c[i].getName().equals("count")){

val=Integer.parseInt(c[i].getValue());

isFound+=1;

break;

}

}

if(isFound!=0)

{

if(val<3){

Cookie nw=new Cookie("count",""+val+1);

response.addCookie(nw);

}

else{

RequestDispatcher rd=request.getRequestDispatcher("exceeded.html");

rd.forward(request, response);

}

}

else{

Cookie nw=new Cookie("count","0");

response.addCookie(nw);

}

while(rs.next())

{

if(rs.getString("uname").equals(uname) && rs.getString("password").equals(p)){

cnt+=1;

}

}

if(cnt!=0){

ServletContext sc=getServletContext();

RequestDispatcher rd=sc.getRequestDispatcher("/valid");

rd.forward(request, response);

}

else{

ServletContext sc=getServletContext();

RequestDispatcher rd=sc.getRequestDispatcher("/invalid");

rd.forward(request, response);

}

response.setContentType("text/html;charset=UTF-8");

try (PrintWriter out = response.getWriter()) {

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("<title>Servlet mainServlet</title>");

out.println("</head>");

out.println("<body>");

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

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

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the //left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(mainServlet.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(mainServlet.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(mainServlet.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(mainServlet.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

private ResultSet getRequestDispatcher(String httplocalhost8080labCycle2mainServletvali) {

throw new UnsupportedOperationException("Not supported yet."); //To change //body of generated methods, choose Tools | Templates.

}

}

**Invalid.java**

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet(urlPatterns = {"/invalid"})

public class invalid extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html;charset=UTF-8");

Cookie[] c=request.getCookies();

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 invalid</title>");

out.println("</head>");

out.println("<body>");

out.println("<h1>INVALID USERNAME/PASSWORD</h1>");

RequestDispatcher rd=request.getRequestDispatcher("index.html");

rd.include(request, response);

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

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

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign //on the //left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

**Addingtocart.java**

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet(urlPatterns = {"/valid"})

public class addToCart extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html;charset=UTF-8");

Cookie c;

c = new Cookie("laptop","30000");

response.addCookie(c);

c=new Cookie("mobile","10000");

response.addCookie(c);

c=new Cookie("ipad","15000");

HttpSession ses=request.getSession(true);

ses.setAttribute("temp","temp");

ses.setMaxInactiveInterval(60);

response.addCookie(c);

try (PrintWriter out = response.getWriter()) {

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("<title>Servlet valid</title>");

out.println("</head>");

out.println("<body>");

out.println("<form method='get' action='http://localhost:8080/labCycle3/purchase'>");

out.println("<input type='checkbox' value='laptop' name='selected'/> LAPTOP<br/>");

out.println("<input type='checkbox' value='mobile' name='selected'/> MOBILE<br/>");

out.println("<input type='checkbox' value='ipad' name='selected'/> IPAD<br/>");

out.println("<input type='submit' value='PURCHASE'/>");

out.println("</h1>");

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

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

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

**Purchase.java**

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

public class purchase extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try (PrintWriter out = response.getWriter()) {

response.setContentType("text/html;charset=UTF-8");

HttpSession ses=request.getSession();

String[] products=request.getParameterValues("selected");

Cookie [] c=request.getCookies();

int totalPrice=0;

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("</head>");

out.println("<body>");

if(ses.isNew()){

out.println("<h1>SESSION EXPIRED</h1>");

out.println("<form method='get' action='index.html'>");

out.println("<input type='submit' value='HOME'/>");

out.println("</form>");

}

else

{

out.println("<h2> YOUR SELECTED ITEMS ARE</h2>");

for(int i=0;i<products.length;i++)

{

for(int j=0;j<c.length;j++)

{

if(products[i].equals(c[j].getName())){

out.println("<h1>"+c[j].getName()+" "+c[j].getValue()+"</h1>");

totalPrice=totalPrice+Integer.parseInt((c[j].getValue()));

}

}

}

Cookie c1=new Cookie("price",""+totalPrice);

response.addCookie(c1);

out.println("<h1> TOTAL PRICE:"+totalPrice+"</h1>");

out.println("<form method='get' action='http://localhost:8080/labCycle3/FinalPurchase'>");

out.println("<input type='submit' value='submit'/>");

}

out.println("</form>");

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

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

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on //the left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

**Confirmed\_purchase.java**

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.\*;

import java.util.Scanner;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

public class FinalPurchase extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException, ClassNotFoundException, SQLException {

response.setContentType("text/html;charset=UTF-8");

Class.forName("org.apache.derby.jdbc.ClientDriver");

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/sample", "app", "app");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery("select \* from ecom");

Cookie[] c=request.getCookies();

String uname="",password="";

Scanner sc=new Scanner(System.in);

int totalPrice=0;

for(int i=0;i<c.length;i++)

{

if(c[i].getName().equals("price")){

totalPrice=Integer.parseInt(c[i].getValue());

break;

}

else if(c[i].getName().equals("uname")){

uname=c[i].getValue();

}

else if(c[i].getName().equals("password")){

password=c[i].getValue();

}

}

int availeBalance=-1;

while(rs.next())

{

if(rs.getString(1).equals(uname) && rs.getString(2).equals(password)){

availeBalance=rs.getInt(3);

break;

}

}

try (PrintWriter out = response.getWriter()) {

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("</head>");

out.println("<body>");

if(availeBalance!=-1)

{

if(availeBalance>=totalPrice){

out.println("<h1>"+"ORDER COMPLETED SUCCESSFULLY"+"</h1>");

out.println("<h1>AVILABLE BALANCE:"+(availeBalance-totalPrice)+"</h1>");

st.executeUpdate("UPDATE ECOM SET balance="+(availeBalance-totalPrice)+"where uname=\'"+uname+"\'"+"and password=\'"+password+"\'");

}

else{

out.println("<h1>"+"INSUFFIENT BALANCE"+"</h1>");

}

}

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

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

con.close();

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the left to edit the code.">

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(FinalPurchase.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(FinalPurchase.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

processRequest(request, response);

} catch (ClassNotFoundException ex) {

Logger.getLogger(FinalPurchase.class.getName()).log(Level.SEVERE, null, ex);

} catch (SQLException ex) {

Logger.getLogger(FinalPurchase.class.getName()).log(Level.SEVERE, null, ex);

}

}

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

**Output**

