**PRACTICAL NO. 08**

**Aim:** Develop a script that uses MongoDB's aggregation framework to perform sorting. For instance, aggregate user data to find the average age of users in different cities.

**Software Used:**

**Program:**

**// Initialize the Project**

mkdir mongodb-aggregation

cd mongodb-aggregation

npm init -y

npm install mongodb

**// Program08.js**

const { MongoClient } = require('mongodb');

const uri = "mongodb://127.0.0.1:27017";

const dbName = "testdb";

const collectionName = "users";

async function runAggregation(){

const client = new MongoClient(uri);

try{

await client.connect();

console.log("Connected to MongoDB");

const db = client.db(dbName);

const collection = db.collection(collectionName);

const pipeline =

[

{ $match: { age: { $gte: 20 } } },

{

$group:

{

\_id: "$city",

averageAge: { $avg: "$age" },

userCount: { $sum: 1 },

},

},

{ $sort: { averageAge: -1 } },

];

const results = await collection.aggregate(pipeline).toArray();

console.log("Aggregation Results:");

results.forEach((result) =>{

console.log(`City: ${result.\_id}`);

console.log(`Average Age: ${result.averageAge.toFixed(2)}`);

console.log(`User Count: ${result.userCount}`);

console.log("-----------------------");

});

}

catch (err){

console.error("Error running aggregation:", err);

}

finally{

await client.close();

}

}

runAggregation();

**// Insert Data**

mongo

use testdb

db.users.insertMany([

{ name: "Alice", age: 25, city: "New York" },

{ name: "Bob", age: 30, city: "San Francisco" },

{ name: "Charlie", age: 35, city: "New York" },

{ name: "David", age: 40, city: "Los Angeles" },

{ name: "Eve", age: 45, city: "San Francisco" }

])

**OUTPUT**

****

**PRACTICAL NO. 09**

**Aim:** Assume four users user1, user2, user3 and user4 having the passwords pwd1, pwd2, pwd3 and pwd4 respectively. Write a PHP for doing the following:

**1.** Create a Cookie and add these four user ID’s and passwords to this Cookie.

**2.** Read the user id and passwords entered in the Login form and authenticate with the values available in the cookies.

**Software Required:** VS Code

**Program:**

**// coklogcheck.html**

<html>

<head>

<title>website</title>

</head>

<body>

<form method="POST" name="frmlogin" action="coklogcheck.php">

<table border="0">

<tr>

<td>Login:</td>

<td><input name="Uname" type="text" ></td>

</tr>

<tr>

<td>Password:</td>

<td><input name="password" type="password" ></td>

</tr>

<tr>

<input type="hidden" name="hdnProcess" value="1"/>

<td><input type="submit" name="sbt" value="Submit"/></td>

<td><input type="button" name="res" value="Reset"/></td>

</tr>

</table>

</form>

</body>

</html>

**// coklogcheck.php**

<?php

setcookie("user2","guru");

setcookie("user3","eshwar");

setcookie("user4","vinay");

setcookie("pass1","pavan");

setcookie("pass2","guru");

setcookie("pass3","eshwar");

setcookie("pass4","vinay");

$UserId = $\_POST['Uname'];

$passwd = $\_POST['password'];

if( ($\_COOKIE['user1']==$UserId && $\_COOKIE['pass1']==$passwd ) || ($\_COOKIE['user2']==$UserId && $\_COOKIE['pass2']==$passwd ) || ($\_COOKIE['user3']==$UserId && $\_COOKIE['pass3']==$passwd )|| ($\_COOKIE['user4']==$UserId && $\_COOKIE['pass4']==$passwd ) )

{ echo "success"; }

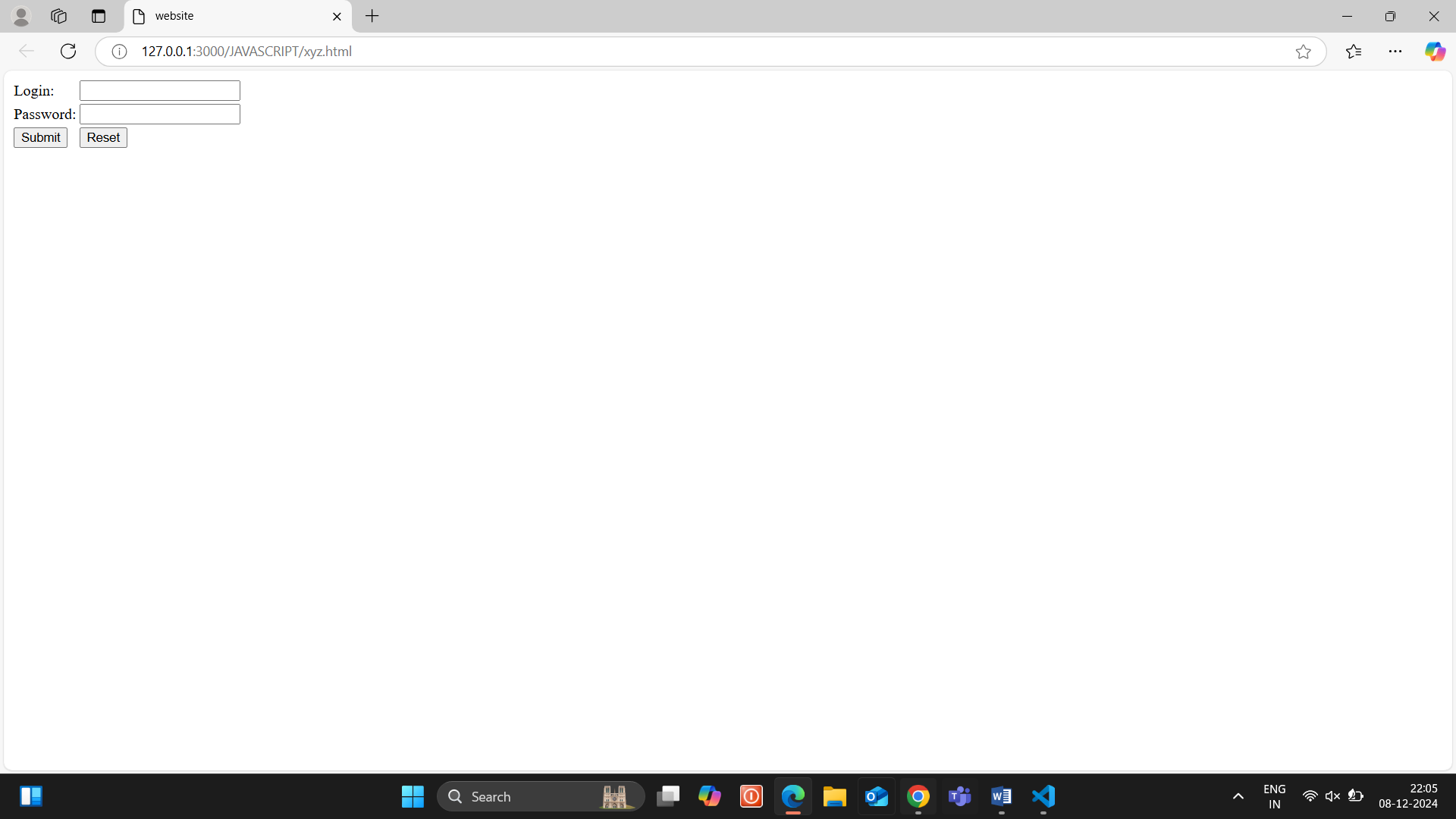
else {

echo "failure";

}

?>

**OUTPUT**

****

**PRACTICAL NO. 10**

**Aim:** Create a table which should contain at least the following fields: name, password, email-id, phone number. Write Servlet/JSP to connect to that database and extract data from the tables and display them. Insert the details of the users who register with the web site, whenever a new user clicks the submit button in the registration page.

**Software Required:** VS Code

**Program:**

**// SQL Database**

CREATE DATABASE mydb;

USE mydb;

CREATE TABLE users (

id INT AUTO\_INCREMENT PRIMARY KEY,

name VARCHAR(45) NOT NULL,

password VARCHAR(45) NOT NULL,

email VARCHAR(45) NOT NULL,

phone\_number VARCHAR(15) NOT NULL

);

**// register.html**

<!DOCTYPE html>

<html>

<head>

<title>User Registration</title>

</head>

<body>

<h2>Register</h2>

<form action="RegisterServlet" method="post">

Name: <input type="text" name="name" required><br>

Password: <input type="password" name="password" required><br>

Email: <input type="email" name="email" required><br> Phone

Number: <input type="text" name="phone\_number" required><br>

<input type="submit" value="Submit">

</form>

</body>

</html>

**// RegisterServlet.java**

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

@WebServlet("/RegisterServlet")

public class RegisterServlet extends HttpServlet {

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

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

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

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

String phoneNumber = request.getParameter("phone\_number");

String jdbcURL = "jdbc:mysql://localhost:3306/mydb";

String dbUser = "root";

String dbPassword = "secret";

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection(jdbcURL,

dbUser, dbPassword);

String sql = "INSERT INTO users (name, password, email,

phone\_number) VALUES (?, ?, ?, ?)";

PreparedStatement statement = connection.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, password);

statement.setString(3, email);

statement.setString(4, phoneNumber);

statement.executeUpdate();

connection.close();

response.sendRedirect("success.html");

}

catch (Exception e) {

e.printStackTrace();

}

}

}

**// listUsers.jsp**

<%@ page import="java.sql.\*" %>

<!DOCTYPE html>

<html>

<head>

<title>Registered Users</title>

</head>

<body>

<h2>List of Registered Users</h2>

<table border="1">

<tr>

<th>ID</th>

<th>Name</th>

<th>Email</th>

<th>Phone Number</th>

</tr>

<%

String jdbcURL = "jdbc:mysql://localhost:3306/mydb";

String dbUser = "root";

String dbPassword = "secret";

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection(jdbcURL, dbUser, dbPassword);

Statement statement = connection.createStatement();

ResultSet resultSet = statement.executeQuery("SELECT \* FROM users");

while (resultSet.next()) {

int id = resultSet.getInt("id");

String userName = resultSet.getString("name");

String userEmail = resultSet.getString("email");

String userPhoneNumber = resultSet.getString("phone\_number");

%>

<tr>

<td><%= id %></td>

<td><%= userName %></td>

<td><%= userEmail %></td>

<td><%= userPhoneNumber %></td>

</tr>

<%

} connection.close();

}

catch (Exception e) {

e.printStackTrace();

}

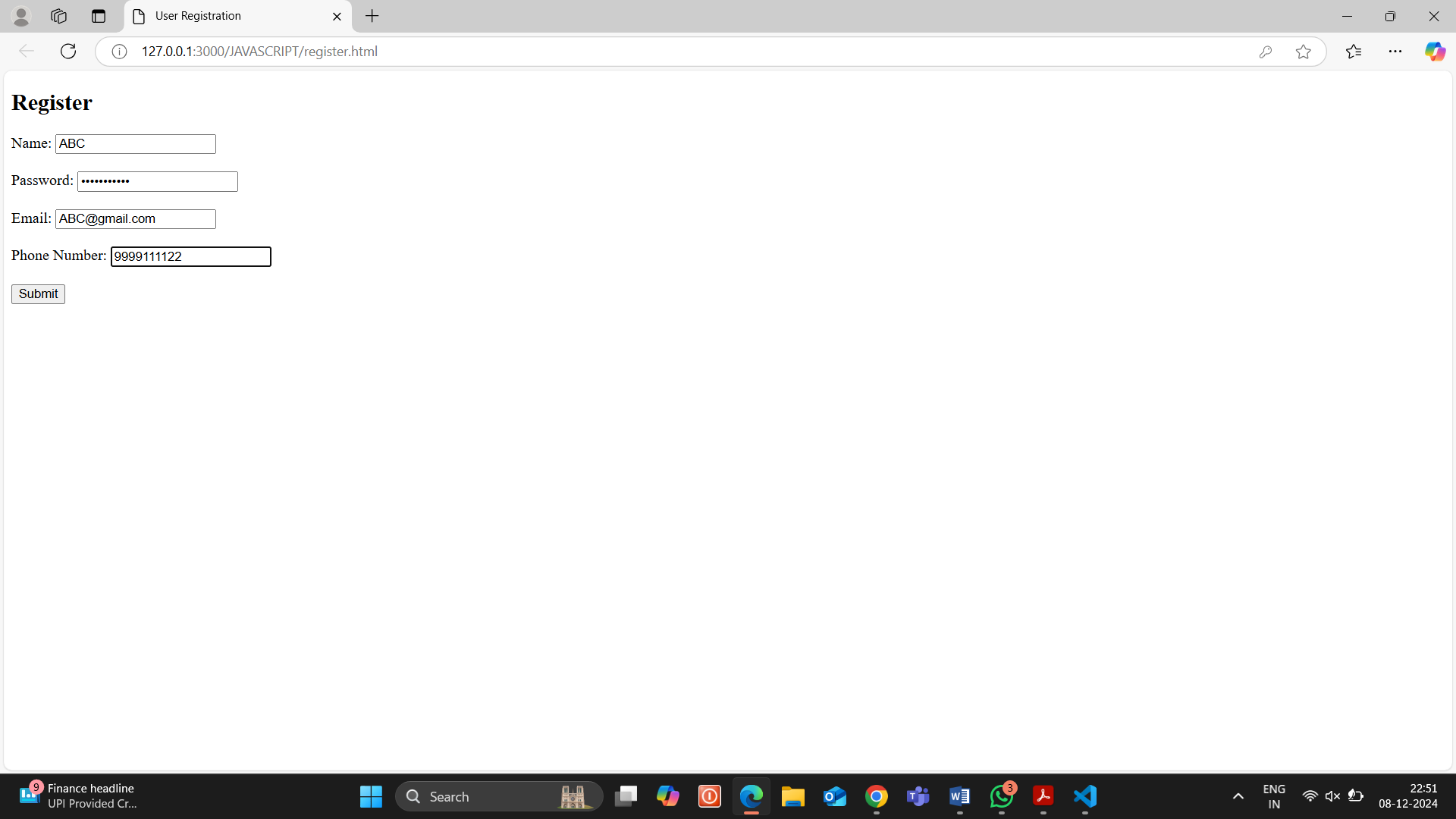
%>

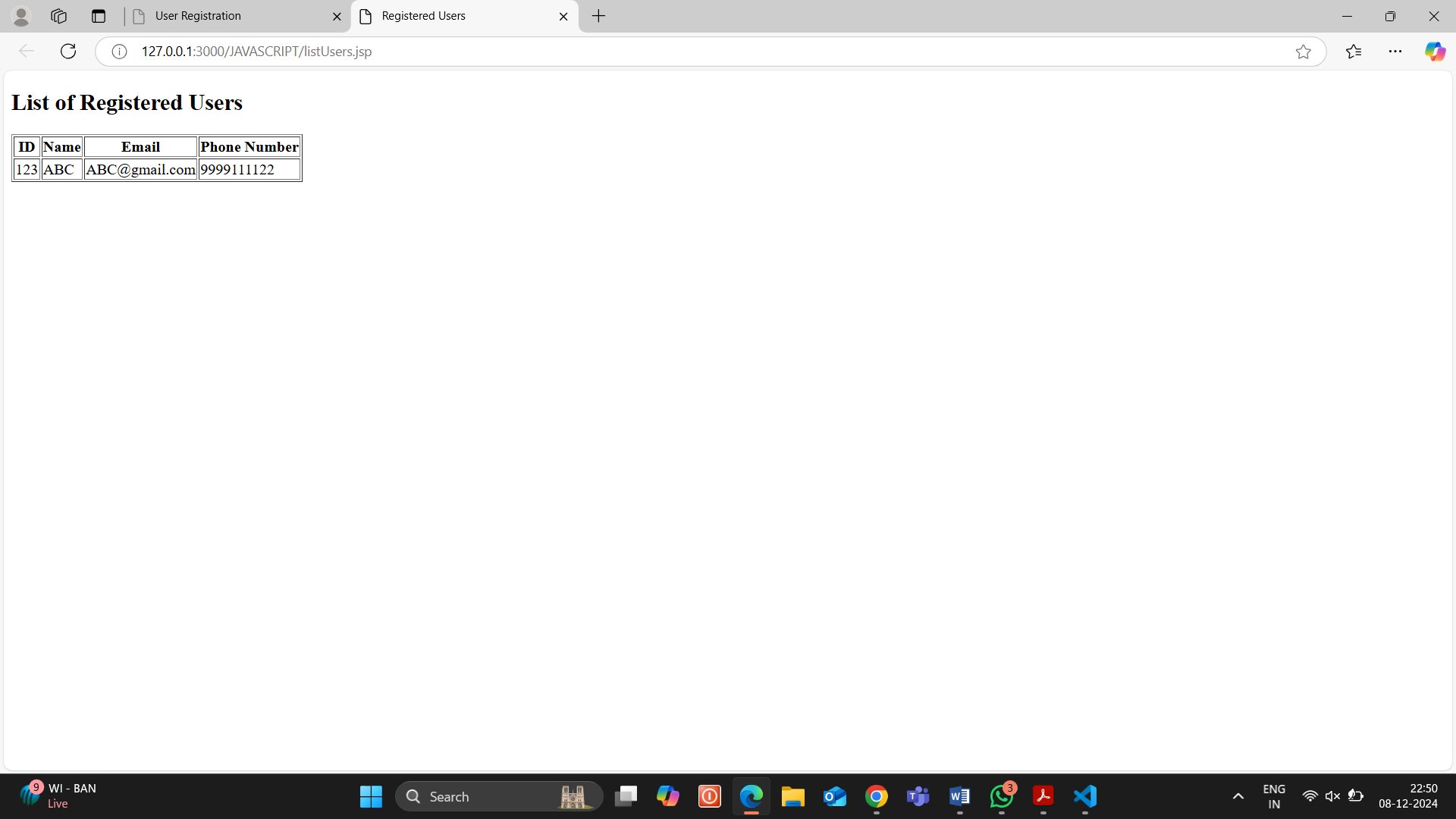
</table>

</body>

</html>

**OUTPUT**

****

****

**PRACTICAL NO. 11**

**Aim:** Write the JSP which insert which insert the details of 3 or 4 users who register on the website using registration form. Authenticate the user when he submits the login form using the username and password from the database.

**Software Required:** VS Code

**Program:**

**// Login.html**

<html>

<body>

<center><h1>XYZ Company Ltd.</h1></center>

<table border="1" width="100%" height="100%">

<tr>

             <td valign="top" align="center"><br/>

                                     <form action="auth.jsp"><table>

                                     <tr>

<td colspan="2" align="center"><b>Login Page</b></td>

                                     </tr>

                                    <tr>

                                          <td colspan="2" align="center"><b>&nbsp;</td>

                                    </tr>

                                    <tr>

                                            <td>User Name</td>

                                            <td><input type="text" name="user"/></td>

                                    </tr>

                                    <tr>

                                            <td>Password</td>

                                               <td><input type="password" name="pwd"/></td>

                                    </tr>

                                    <tr>

                                               <td>&nbsp;</td>

                                               <td>&nbsp;</td>

                                    </tr>

                                    <tr>

<td colspan="2" align="center"><input type="submit" value="LogIN"/></td>

                                    </tr>

                                     </form>

             </td>

</tr>

</table>

</body>

</html>

**// Auth.jsp**

<%@page import="java.sql.\*;"%>

<html>

<head>

<title>This is simple data base example in JSP</title>

</head>

<body bgcolor="yellow">

<%!String uname,pwd;%>

<%

uname=request.getParameter("user");

pwd=request.getParameter("pwd");

  try{

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@195.100.101.158:1521:CCLAB","scott","tiger");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery("select name,password from personal where name='"+uname+"' and password='"+pwd+"'");

if(rs.next()){

out.println("Authorized person");

}

else{

out.println("UnAuthorized person");

}

con.close();

}

catch(Exception e){

out.println(""+e);

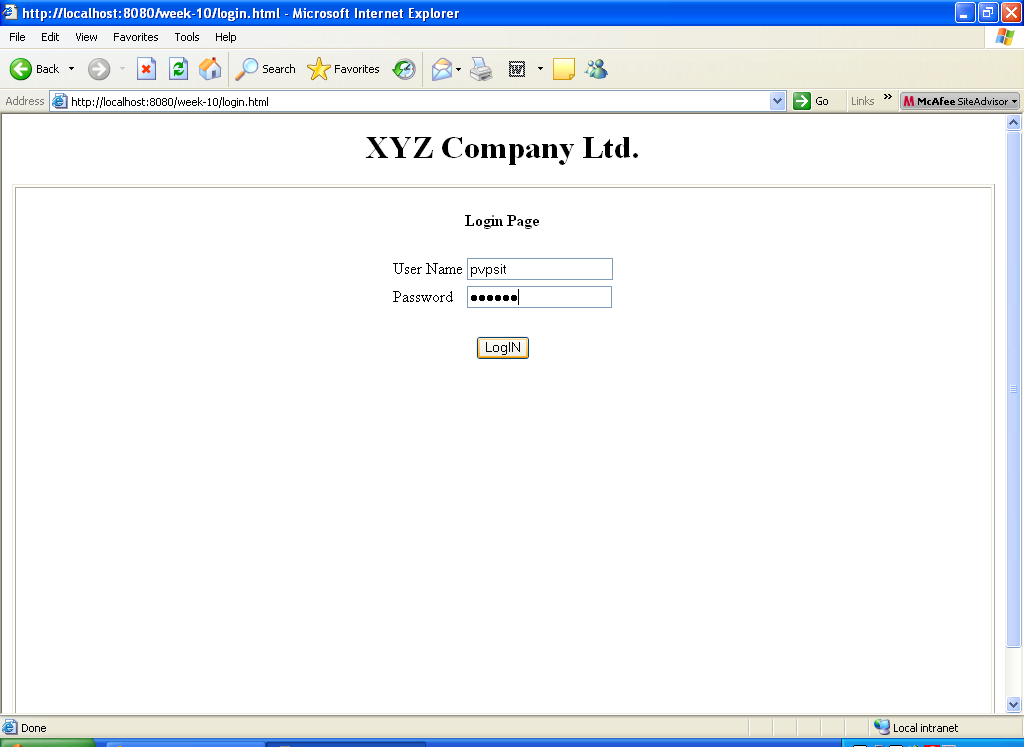
}

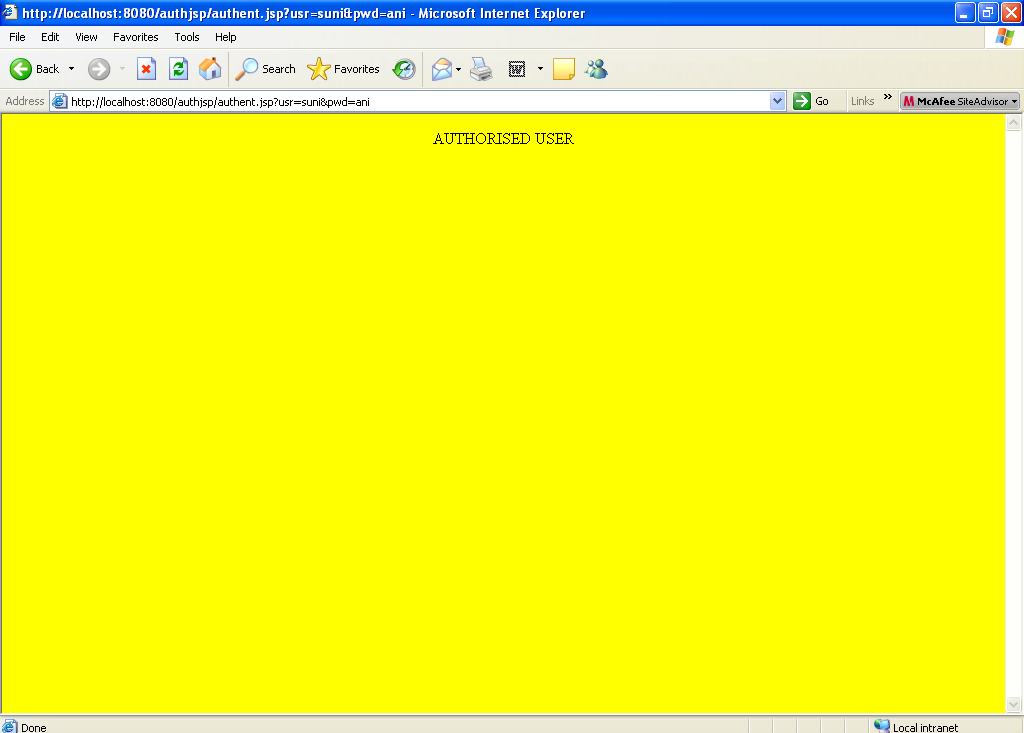
%>

</body>

</html>

**OUTPUT**





**PRACTICAL NO. 12**

**Aim:** Design and implement a simple shopping cart example with session tracking API.

**Software Required:** VS Code

**Program:**

**// ShoppingCart.html**

<!DOCTYPE html>

<html>

<head>

<title> Shopping Cart</title>

</head>

<body>

<h3>Cookie Example through Shopping Cart</h3>

<form method="get" action="http://localhost:8888/india/SC">

Enter Item Name <input type="text" name="item"><br> Enter Item Quantity <input type="text" name="qty"><br>

<input type="submit" value="Add Cookie" name="add">

<input type="submit" value="List Cookies" name="list">

</form>

</body>

</html>

**// web.xml entry for ShoppingCart servlet**

<servlet>

<servlet-name>snrao1</servlet-name>

<servlet-class>ShoppingCart</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>snrao1</servlet-name>

<url-pattern>/SC</url-pattern>

</servlet-mapping>

**// ShoppingCart.java**

import java.io.\*; import javax.servlet.\*;

import javax.servlet.http.\*;

public class ShoppingCart extends HttpServlet {

public void service(HttpServletRequest req,HttpServletResponse res) throws ServletException, IOException {

String str1 = req.getParameter("item");

// item name String str2 = req.getParameter("qty");

// item quantity

String str3 = req.getParameter("add");

String str4 = req.getParameter("list");

res.setContentType("text/html");

PrintWriter out = res.getWriter();

if(str3 != null) {

Cookie c1 = new Cookie(str1, str2); res.addCookie(c1); res.sendRedirect("ShoppingCart.html");

}

else if(str4 != null) {

Cookie clientCookies[] = req.getCookies();

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

out.print("<B>" + clientCookies[i].getName() + " : " + clientCookies[i].getValue() + "</B><BR>");

}

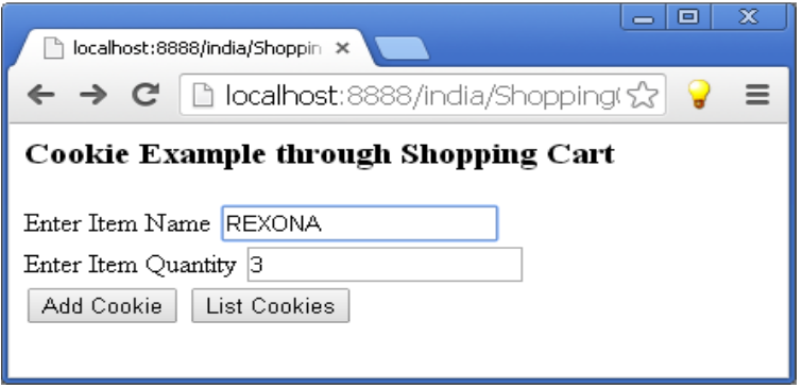
}

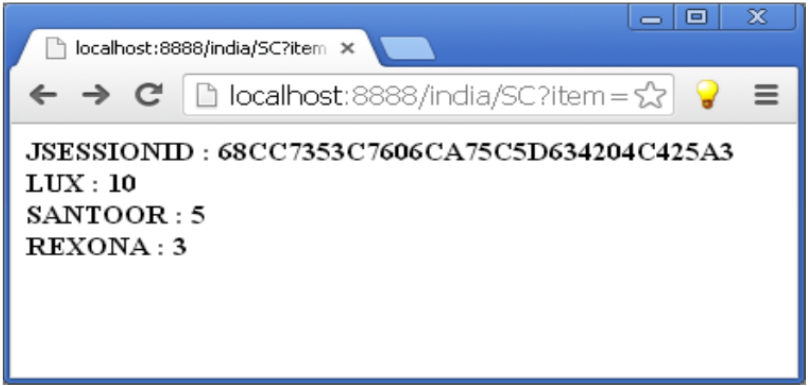
out.close( ) ;

}

}

**OUTPUT**

****

****