**Abeda Inamdar Senior College (Autonomous) 1**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to display IP Address and Name of client machine [10 M]

import java.net.\*;

public class Slip1\_1 {

public static void main(String[] args) {

try {

InetAddress localhost = InetAddress.getLocalHost();

System.out.println("IP Address: " + localhost.getHostAddress());

System.out.println("Host Name : " + localhost.getHostName());

} catch (UnknownHostException e) {

e.printStackTrace();

}

}

}

OR

import java.net.\*;

class Slip1\_1 {

public static void main(String args[]) throws Exception {

InetAddress inet = InetAddress.getByName("www.facebook.com");

System.out.println("Client Machine name=" + inet.getLocalHost() + " \n" + "Ip Address of Facebook="

+ inet.getHostAddress());

}

}

B) Write a JSP script to accept username, store it into the session, compare it with password in another jsp file, if username matches with password then display appropriate message in html file. [15 M]

**Webapps\Slip1\_2\login.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Login Page</title>

</head>

<body>

<form action="checkPassword.jsp" method="post">

<label for="username">Enter Username:</label>

<input type="text" id="username" name="username" required><br><br>

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

</form>

</body>

</html>

**Webapps\Slip1\_2\checkPassword.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

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

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Login Result</title>

</head>

<body>

<%

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

String password = "password123"; // Example password

out.println("<h2>Entered Username: " + username + "</h2>");

if(username != null && username.equals(password)) {

session.setAttribute("username", username);

%>

<h1>Login Successful</h1>

<% } else { %>

<h1>Login Failed</h1>

<% } %>

</body>

</html>

**Chrome Execution:** localhost:8085/Slip1\_2/login.jsp

**Abeda Inamdar Senior College (Autonomous) 2**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a multithreading program in java to display all the vowels from a given String.[10M]

import java.util.\*;

class Slip2\_1 extends Thread {

    String s1;

    Slip2\_1(String s) {

        s1 = s;// ashwini

        start();

    }

    public void run() {

        System.out.println("Vowels are  ");

        for (int i = 0; i < s1.length(); i++) {

            char ch = s1.charAt(i); // charAt()returns the character at the specified index in a string.

            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' || ch == 'A' || ch == 'E' || ch == 'I'

                    || ch == 'O' || ch == 'U')

                System.out.print(" " + ch);

        }

    }

    public static void main(String a[]) {

        Scanner s = new Scanner(System.in);

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

        String str = s.nextLine();

        Slip2\_1 v = new Slip2\_1(str);

    }

}

B) Write a SERVLET program which counts how many times a user has visited a web page. If user is visiting the page for the first time, display a welcome message. If the user is revisiting the page, display the number of times visited. (Use cookies) [15 M]

**Webapps\ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

version="4.0">

<servlet>

<servlet-name>Slip2\_2</servlet-name>

<servlet-class>Slip2\_2</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Slip2\_2</servlet-name>

<url-pattern>/Slip2\_2</url-pattern>

</servlet-mapping>

</web-app>

**Webapps\ServletPrograms\WEB-INF\classes\Slip2\_2.java**

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletException;

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("/VisitCounterServlet")

public class Slip2\_2 extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

// Get the array of cookies associated with this request

Cookie[] cookies = request.getCookies();

// Flag to check if user visited the page before

boolean foundCookie = false;

// Count of visits

int visitCount = 0;

if (cookies != null) {

// Iterate through cookies to find our visit count cookie

for (Cookie cookie : cookies) {

if (cookie.getName().equals("visitCount")) {

// Found our visit count cookie

foundCookie = true;

visitCount = Integer.parseInt(cookie.getValue());

break;

}

}

}

// If no visit count cookie found, create a new one

if (!foundCookie) {

visitCount = 1;

Cookie newCookie = new Cookie("visitCount", String.valueOf(visitCount));

newCookie.setMaxAge(24 \* 60 \* 60); // Cookie expires in 1 day

response.addCookie(newCookie);

out.println("<h2>Welcome! This is your first visit.</h2>");

} else {

// Increment visit count and update the cookie

visitCount++;

Cookie[] newCookies = new Cookie[] { new Cookie("visitCount", String.valueOf(visitCount)) };

response.addCookie(newCookies[0]);

out.println("<h2>Welcome back! You have visited this page " + visitCount + " times.</h2>");

}

out.close();

}

}

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip2\_2

**Abeda Inamdar Senior College (Autonomous) 3**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JDBC program to display the details of employees (eno, ename, department, sal) whose department is “Computer Science”. [10 M]

import java.sql.\*;

public class Slip3\_1 {

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

        // Load the Oracle JDBC driver

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

        // Connect to the database

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

        // Create a statement object

        Statement stmt = con.createStatement();

        // Execute the query and get the result set

        ResultSet resultSet = stmt.executeQuery("SELECT eno, ename, department, sal FROM employees WHERE department = 'Computer Science'");

        // Display the employee details

        System.out.println("Employee Details:");

        while (resultSet.next()) {

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

            String ename = resultSet.getString("ename");

            String department = resultSet.getString("department");

            double sal = resultSet.getDouble("sal");

            System.out.println(

                    " - eno: " + eno + ", ename: " + ename + ", department: " + department + ", salary: " + sal);

        }

        // Close the connections

        resultSet.close();

        stmt.close();

        con.close();

    }

}

B) Write a java program to accept ‘n’ integers from the user & store them in an ArrayList collection. Display the elements of ArrayList collection in reverse order. [15M]

import java.util.ArrayList;

import java.util.Collections;

import java.util.Scanner;

public class Slip3\_2 {

    public static void main(String[] args) {

        Scanner s = new Scanner(System.in);

        System.out.print("Enter the number of integers (n): ");

        int n = s.nextInt();

        ArrayList<Integer> numbers = new ArrayList<>();

        System.out.println("Enter " + n + " integers:");

        for (int i = 0; i < n; i++) {

            numbers.add(s.nextInt());

        }

        // Reverse the ArrayList using Collections.reverse()

        Collections.reverse(numbers);

        System.out.println("Elements in reverse order:");

        for (int number : numbers) {

            System.out.println(number);

        }

        s.close();

    }

}

**Abeda Inamdar Senior College (Autonomous) 4**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to display “Hello Java” message n times on the screen. (Use Runnable Interface). [10 M]

import java.util.\*;

class Slip4\_1 implements Runnable {

    int i, no;

    Slip4\_1(int n)// 5

    {

        no = n;// no=5

    }

    public void run() {

        for (i = 1; i <= no; i++) {

            System.out.println("\nHello Java");

            try {

                Thread.sleep(50);

            } catch (Exception e) {

                System.out.println(e);

            }

        }

    }

    public static void main(String args[]) {

        Scanner s = new Scanner(System.in);

        System.out.println("Enter How many times to display message");

        int n = s.nextInt();

        Slip4\_1 s4 = new Slip4\_1(n);// 5

        Thread t = new Thread(s4);

        t.start();

    }

}

B) Write a SERVLET program that provides information about a HTTP request from a client, such as IP address and browser type. The servlet also provides information about the server on which the servlet is running, such as the operating system type, and the names of currently loaded servlets. [15 M]

**Webapps\ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

         xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

         version="4.0">

    <servlet>

        <servlet-name>Slip4\_2</servlet-name>

        <servlet-class>Slip4\_2</servlet-class>

    </servlet>

    <servlet-mapping>

        <servlet-name>Slip4\_2</servlet-name>

        <url-pattern>/Slip4\_2</url-pattern>

    </servlet-mapping>

</web-app>

**Webapps\ServletPrograms\WEB-INF\classes\Slip4\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.util.\*;

public class Slip4\_2 extends HttpServlet implements Servlet

{

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

{

res.setContentType("text/html");

PrintWriter pw=res.getWriter();

pw.println("<html><body><h2>Information about Http Request</h2>");

java.util.Properties p=System.getProperties();

pw.println("<br>Server Name: "+req.getServerName());

pw.println("<br>Server Port: "+req.getServerPort());

pw.println("<br>Ip Address: "+req.getRemoteAddr());

pw.println("<br>Operating System Name :"+p.getProperty(" "));

pw.println("<br>Servlet Name :"+this.getServletName());

pw.println("<br>Protocol Name :"+req.getProtocol());

pw.println("</body></html>");

pw.close();

}

}

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip4\_2

**Abeda Inamdar Senior College (Autonomous) 5**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to create Teacher table(TNo.TName, Sal, Desg) and insert a record in it. [10 M]

import java.sql.\*;

class Slip5\_1 {

    public static void main(String args[]){

        try{

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","system");

            PreparedStatement ps1 = con.prepareStatement("create table Teacher(TNo int primary key,TName varchar(20),sal int,Desg varchar(30))");

            ps1.executeUpdate();

            PreparedStatement ps2 = con.prepareStatement("insert into Teacher(TNo,TName,sal,Desg) values(?,?,?,?)");

            ps2.setInt(1,1);

            ps2.setString(2,"Amir Shaikh");

            ps2.setInt(3,30000);

            ps2.setString(4,"Assistant Professor");

            ps2.executeUpdate();

            ps1.close();

            ps2.close();

            con.close();

        } catch(Exception e){

            e.printStackTrace();

        }

    }

}

B) Construct a Linked List containing name: CPP, Java, Python and PHP. Then extend your java program to do the following:

1. Display the contents of the List using an Iterator.

2. Display the contents of the List in reverse order using a ListIterator.[15 M]

import java.util.Iterator;

import java.util.LinkedList;

import java.util.ListIterator;

public class Slip5\_2{

    public static void main(String[] args) {

        LinkedList<String> languages = new LinkedList<>();

        languages.add("CPP");

        languages.add("Java");

        languages.add("Python");

        languages.add("PHP");

        // Display using Iterator

        System.out.println("Contents using Iterator:");

        Iterator<String> iterator = languages.iterator();

        while (iterator.hasNext()) {

            System.out.println(iterator.next());

        }

        // Display in reverse order using ListIterator

        System.out.println("\nContents in reverse order using ListIterator:");

        ListIterator<String> listIterator = languages.listIterator(languages.size());

        while (listIterator.hasPrevious()) {

            System.out.println(listIterator.previous());

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 6**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to accept the details of customer (CID, CName, Address, Ph\_No) and store it into the database(Use PreparedStatement interface) [10 M]

import java.sql.\*;

import java.util.Scanner;

class Slip6\_1 {

    public static void main(String args[]) {

        try {

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            PreparedStatement ps = con.prepareStatement("insert into Customer(CID,CName,Address,Ph\_No) values(?,?,?,?)");

            Scanner scan = new Scanner(System.in);

            System.out.print("Enter Customer ID: ");

            int cid = scan.nextInt();

            scan.nextLine();

            System.out.print("Enter Customer name: ");

            String cname = scan.nextLine();

            System.out.print("Enter customer Address: ");

            String addr = scan.nextLine();

            System.out.print("Enter customer phone number: ");

            String ph = scan.nextLine();

            ps.setInt(1,cid);

            ps.setString(2, cname);

            ps.setString(3, addr);

            ps.setString(4,ph);

            ps.executeUpdate();

            ps.close();

            con.close();

            scan.close();

        } catch (Exception e) {

            e.printStackTrace();

        }

    }

}

B) Write a socket program in java to check whether given file is present on server or not [15 M]

**Server.java**

import java.io.\*;

import java.net.\*;

public class Server {

public static void main(String[] args) {

try {

ServerSocket serverSocket = new ServerSocket(6666);

System.out.println("Server started and waiting for client...");

while (true) {

Socket socket = serverSocket.accept();

System.out.println("Client connected.");

DataInputStream dis = new DataInputStream(socket.getInputStream());

String filePath = dis.readUTF();

File file = new File(filePath);

boolean exists = file.exists();

DataOutputStream dos = new DataOutputStream(socket.getOutputStream());

dos.writeBoolean(exists);

dos.flush();

dis.close();

dos.close();

socket.close();

}

} catch (IOException e) {

System.err.println("Server Error: " + e.getMessage());

}

}

}

**Client.java**

import java.io.\*;

import java.net.\*;

import java.util.Scanner;

public class Client {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter file path: ");

String filePath = scanner.nextLine();

scanner.close();

try {

Socket socket = new Socket("localhost", 6666);

DataOutputStream dos = new DataOutputStream(socket.getOutputStream());

dos.writeUTF(filePath);

dos.flush();

DataInputStream dis = new DataInputStream(socket.getInputStream());

boolean exists = dis.readBoolean();

if (exists) {

System.out.println("File '" + filePath + "' exists on the server.");

} else {

System.out.println("File '" + filePath + "' does not exist on the server.");

}

dis.close();

dos.close();

socket.close();

} catch (IOException e) {

System.err.println("Client Error: " + e.getMessage());

}

}

}

**Abeda Inamdar Senior College (Autonomous) 7**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP program to calculate sum of first and last digit of a given number. Display sum in Red Color with font size 18. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip7\_1\Slip7\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Sum of First and Last Digit</title>

</head>

<body>

<h2>Sum of First and Last Digit</h2>

<form method="post" action="Slip7\_1.jsp">

Enter a number: <input type="text" id="number" name="number"><br>

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

</form>

<%

String numberStr = request.getParameter("number");

if(numberStr != null && !numberStr.isEmpty()) {

try {

int number = Integer.parseInt(numberStr);

int sum = 0;

if(number >= 10) {

int lastDigit = number % 10;

int firstDigit = Integer.parseInt(String.valueOf(number).substring(0, 1));

sum = firstDigit + lastDigit;

} else {

sum = number;

}

%>

<div style="color: red; font-size: 18px;">

Sum of first and last digit of <%= number %> is <%= sum %>.

</div>

<%

} catch(NumberFormatException e) {

%>

<div style="color: red;">

Invalid input. Please enter a valid number.

</div>

<%

}

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip7\_1/Slip7\_1.jsp

B) Write a JAVA program to create two threads, one displays "computer science" and

another displays "information science" five times. [15 M]

class DisplayThread implements Runnable {

    private String message;

    private int repetitions;

    public DisplayThread(String message, int repetitions) {

      this.message = message;

      this.repetitions = repetitions;

    }

    @Override

    public void run() {

      for (int i = 0; i < repetitions; i++) {

        System.out.println(message);

      }

    }

  }

  public class Slip7\_2 {

    public static void main(String[] args) {

      Thread thread1 = new Thread(new DisplayThread("Computer Science", 5));

      Thread thread2 = new Thread(new DisplayThread("Information Science", 5));

      thread1.start();

      thread2.start();

    }

  }

**Abeda Inamdar Senior College (Autonomous) 8**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a multithreading program using Runnable interface to blink Text on the frame. [10 M]

import java.awt.\*;

class Slip8\_1 extends Frame implements Runnable {

    Thread t;

    Label l1;

    int c;

    Slip8\_1() {

        setLayout(null);

        l1 = new Label("Hello JAVA");

        l1.setBounds(100, 100, 100, 40);

        add(l1);

        setSize(300, 300);

        setVisible(true);

        c = 0;

    }

    public void run() {

        while (true) {

            try {

                if (c == 0) {

                    t.sleep(200);

                    l1.setText("");

                    c = 1;

                }

                if (c == 1) {

                    t.sleep(200);

                    l1.setText("Hello Java");

                    c = 0;

                }

            } catch (Exception e) {

                System.out.println(e);

            }

        }

        // run();

    }

    public static void main(String a[]) {

        Slip8\_1 s = new Slip8\_1();

        Thread t = new Thread(s);

        t.start();

    }

}

B) Write a SERVLET application to accept username and password, search them into database, if found then display appropriate message on the browser otherwise display error message. [15 M]

**C:\Program Files\Apache Software Foundation\Tom cat 9.0\ webapps\ ServletPrograms\ Slip8\_2.html**

<!DOCTYPE html>

<html>

<head>

<title>Login Page</title>

</head>

<body>

<h2>Login</h2>

<form action="http://localhost:8085/ServletPrograms/Slip8\_2" method="post">

Username: <input type="text" id="username" name="username"><br>

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

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

</form>

</body>

</html>

**C:\Program Files\Apache Software Foundation\Tom cat 9.0\ webapps\ ServletPrograms\WEB-INF\classes\Slip8\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class Slip8\_2 extends HttpServlet {

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

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

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

try {

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

Connection conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","system");

PreparedStatement pstmt = conn.prepareStatement("SELECT \* FROM users WHERE username=? AND password=?");

pstmt.setString(1, username);

pstmt.setString(2, password);

ResultSet rs = pstmt.executeQuery();

// Check if the user exists

if(rs.next())

out.println("Valid user");

else

out.println("Invalid user");

} catch (ClassNotFoundException | SQLException e) {

out.println("Exception: " + e.getMessage());

}

}

}

**C:\Program Files\Apache Software Foundation\Tom cat 9.0\ webapps\ ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

version="4.0">

<servlet>

<servlet-name>Slip8\_2</servlet-name>

<servlet-class>Slip8\_2</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Slip8\_2</servlet-name>

<url-pattern>/Slip8\_2</url-pattern>

</servlet-mapping>

</web-app>

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip8\_2.html

**Abeda Inamdar Senior College (Autonomous) 9**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JDBC program to delete the records of employees whose names are starts with ‘A’ character. [10 M]

import java.sql.\*;

class Slip9\_1 {

    public static void main(String args[]) throws Exception {

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

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

        Statement stmt = con.createStatement();

        stmt.executeUpdate("delete from employees where ename like 'A%'");

        stmt.close();

        con.close();

    }

}

B) Define a thread called PrintText\_Thread for printing text on command prompt for n number of times. Create three threads and run them. Pass the text and n as parameters to the thread constructor. Example:

i. First thread print (I am in FY)10 times

ii. Second thread print (I am in SY)20 times

iii. Third thread print (I am in TY)30 times) [15 M]

class MyThread extends Thread {

    private String text;

    private int n;

    public MyThread(String text, int n) {

        this.text = text;

        this.n = n;

    }

    @Override

    public void run() {

        for (int i = 0; i < n; i++) {

            System.out.println(text);

        }

    }

}

public class Slip9\_2 {

    public static void main(String[] args) {

        // Create three threads with different text and n values

        MyThread thread1 = new MyThread("I am in FY", 10);

        MyThread thread2 = new MyThread("I am in SY", 20);

        MyThread thread3 = new MyThread("I am in TY", 30);

        // Start the threads

        thread1.start();

        thread2.start();

        thread3.start();

    }

}

**Abeda Inamdar Senior College (Autonomous) 10**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JDBC program to count the number of records in table. (Without using standard method). [10 M]

import java.sql.\*;

public class Slip10\_1 {

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

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

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

        Statement stmt = con.createStatement();

        ResultSet count = stmt.executeQuery("select count(\*) from employees");

        if(count.next());

        System.out.println("Number of rows in employee table = "+count.getInt(1));

        stmt.close();

        con.close();

    }

}

B) Accept’n’ integer from the user and store them in a collection. Display them in the sorted order. The collection should not accept duplicate elements (Use suitable collection). [15 M]

import java.util.\*;

public class Slip10\_2 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of integers (n): ");

        int n = scanner.nextInt();

        HashSet<Integer> integers = new HashSet<>();

        System.out.println("Enter " + n + " integers:");

        for (int i = 0; i < n; i++) {

            integers.add(scanner.nextInt()); // Automatically handles duplicates

        }

        // Display sorted integers using TreeSet

        System.out.println("\nSorted integers:");

        TreeSet<Integer> sortedIntegers = new TreeSet<>(integers);

        for (int num : sortedIntegers) {

            System.out.println(num);

        }

        // Search for a particular element

        System.out.print("\nEnter an integer to search: ");

        int searchElement = scanner.nextInt();

        if (integers.contains(searchElement)) {

            System.out.println("Element found in the collection.");

        } else {

            System.out.println("Element not found in the collection.");

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 11**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60] Q.1. Advanced Java:**

1. Write a JDBC program to remove “percentage” column from student (rno, sname, percentage) table. Student table is already created. [10 M]

import java.sql.\*;

public class Slip11\_1 {

    public static void main(String[] args) {

        try {

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

            Connection connection = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            Statement statement = connection.createStatement();

            statement.executeUpdate("ALTER TABLE student DROP COLUMN percentage");

            System.out.println("Column 'percentage' removed from student table.");

            statement.close();

            connection.close();

        } catch (Exception e){

            e.printStackTrace();

        }

    }

}

1. Write a Java program to display sales details of Product (PID, PName, Qty, Rate,Amount) (Assume Sales table is already created). [15 M]

import java.sql.\*;

public class Slip11\_2 {

public static void main(String[] args) {

try {

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

Connection connection = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

Statement statement = connection.createStatement();

ResultSet resultSet = statement.executeQuery("SELECT PID, PName, Qty, Rate, Amount FROM Sales");

System.out.println("Sales Details:");

System.out.println("PID\tPName\tQty\tRate\tAmount");

while (resultSet.next()) {

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

String PName = resultSet.getString("PName");

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

double Rate = resultSet.getDouble("Rate");

double Amount = resultSet.getDouble("Amount");

System.out.println(PID + "\t" + PName + "\t" + Qty + "\t" + Rate + "\t" + Amount);

}

} catch (Exception e){

e.printStackTrace();

}

}

}

**Abeda Inamdar Senior College (Autonomous) 12**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to display the number’s between 1 to 100 continuously in a TextFiel by clicking on button. [10 M]

import java.awt.event.\*;

import javax.swing.\*;

class Slip12\_1 implements ActionListener, Runnable {

    JFrame f;

    JPanel p;

    JTextField t;

    JButton b;

    Thread t1;

    Slip12\_1() {

        f = new JFrame();

        p = new JPanel();

        t = new JTextField(40);

        b = new JButton("Start");

        t1 = new Thread(this);

        b.addActionListener(this);

        p.add(t);

        p.add(b);

        f.add(p);

        f.setSize(400, 400);

        f.setVisible(true);

    }

    public void actionPerformed(ActionEvent e) {

        t1.start();

    }

    public void run() {

        for (int i = 1; i <= 100; i++) {

            t.setText(String.valueOf(i));

            try {

                Thread.sleep(50);

            } catch (Exception e) {

            }

        }

    }

    public static void main(String args[]) {

        Slip12\_1 d = new Slip12\_1();

    }

}

1. Write a JSP program to accept the details of Account (ANo, Type, Bal) and store it into database and display it in tabular form. (Use PreparedStatement interface) [15 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip12\_2\Slip12\_2.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

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

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Insert Account Details</title>

</head>

<body>

<h2>Insert Account Details</h2>

<form action="Slip12\_2.jsp" method="post">

Account Number: <input type="text" name="ANo"><br>

Type: <input type="text" name="Type"><br>

Balance: <input type="text" name="Bal"><br>

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

</form>

<hr>

<h2>Account Details</h2>

<table border="1">

<tr>

<th>Account Number</th>

<th>Type</th>

<th>Balance</th>

</tr>

<%

try {

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

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

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

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

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

if (ANo != null && Type != null && Bal != null) {

PreparedStatement pst = con.prepareStatement("INSERT INTO Account (ANo, Type, Bal) VALUES (?, ?, ?)");

pst.setString(1, ANo);

pst.setString(2, Type);

pst.setString(3, Bal);

pst.executeUpdate();

pst.close();

}

Statement stmt = con.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM Account");

while (rs.next()) {

%>

<tr>

<td><%= rs.getString("ANo") %></td>

<td><%= rs.getString("Type") %></td>

<td><%= rs.getString("Bal") %></td>

</tr>

<%

}

rs.close();

stmt.close();

con.close();

} catch (Exception e) {

e.printStackTrace();

}

%>

</table>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip12\_2/Slip12\_2.jsp

**Abeda Inamdar Senior College (Autonomous) 13**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to create a Mobile (Model\_No, Company\_Name, Price, Color) table. [10 M]

import java.sql.\*;

class Slip13\_1{

    public static void main(String args[]) throws Exception{

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

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","system");

        PreparedStatement ps = con.prepareStatement("create table Mobile(Model\_No varchar(20) primary key,Company\_Name varchar(20),Price int,Color varchar(20)");

        ps.executeUpdate();

        ps.close();

        con.close();

    }

}

1. Write a Socket program in java for simple stand-alone chatting application. [15M]

**Server.java**

import java.net.\*;

import java.io.\*;

class Server {

    public static void main(String args[]) {

        try {

            ServerSocket ss = new ServerSocket(7777);

            Socket s = ss.accept();

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());

            DataInputStream dis = new DataInputStream(s.getInputStream());

            BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

            while (true) {

                System.out.println("Receive data from Client");

                System.out.println(dis.readUTF());

                System.out.println("Send data to Client");

                dos.writeUTF(br.readLine());

            }

        } catch (Exception e) {

        }

    }

}

**Client.java**

import java.io.\*;

import java.net.\*;

class Client

{

    public static void main(String args[])

    {

     try

    {

        Socket s=new Socket("localhost",7777);

                DataOutputStream dos=new DataOutputStream(s.getOutputStream());

        DataInputStream dis=new DataInputStream(s.getInputStream());

        BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

        while(true)

        {

            System.out.println("Send data to Server");

            String str=br.readLine();

            dos.writeUTF(str);

            System.out.println("Recieve data from Server");

            System.out.println(dis.readUTF());

        }

    }

    catch(Exception e){}

    }

}

**Abeda Inamdar Senior College (Autonomous) 14**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a Socket program in java which displays the server machine’s date and time on the client machine. [10 M]

**Server.java**

import java.net.\*;

import java.io.\*;

import java.util.\*;

class Server {

    public static void main(String args[]) throws Exception {

        ServerSocket ss = new ServerSocket(7777);

        while (true) {

            System.out.println("Waiting For Connection ...");

            Socket s = ss.accept();

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());

            Date d = new Date();

            dos.writeUTF("Server Date: " + d.toString() + "\n");

            dos.close();

            ss.close();

        }

    }

}

**Client.java**

import java.io.\*;

import java.net.\*;

class Client {

    public static void main(String args[]) throws Exception {

        Socket s = new Socket("localhost", 7777);

        DataInputStream dis = new DataInputStream(s.getInputStream());

        System.out.println(dis.readUTF());

    }

}

B) Consider the following Entities and Relationships

Department (dept\_no, dept\_name, location)

Employee (emp\_no, emp\_name, address, salary, designation)

Relation between Department and Employee is One to Many

Constraint: Primary key, salary should be > 0.

Find total salary of all computer department employees. [15 M]

import java.sql.\*;

public class Slip14\_2 {

    public static void main(String[] args) {

        try {

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

            Connection connection = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            String sql = "SELECT SUM(salary) AS total\_salary " +

                         "FROM Employee " +

                         "WHERE dept\_no IN (SELECT dept\_no FROM Department WHERE dept\_name = 'Computer')";

            Statement statement = connection.createStatement();

            ResultSet resultSet = statement.executeQuery("SELECT SUM(salary) AS total\_salary FROM Employee WHERE dept\_no IN (SELECT dept\_no FROM Department WHERE dept\_name = 'Computer')");

            // Process the result

            if (resultSet.next()) {

                double totalSalary = resultSet.getDouble("total\_salary");

                System.out.println("Total salary of all Computer department employees: " + totalSalary);

            } else {

                System.out.println("No records found.");

            }

        } catch (Exception e){

            e.printStackTrace();

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 15**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to display each alphabet after 2 seconds between ‘a’ to ‘z’. [10M]

import java.lang.\*;

class Slip15\_1 extends Thread {

    char c;

    public void run() {

        for (c = 'A'; c <= 'z'; c++) {

            System.out.println(c);

            try {

                Thread.sleep(2000);

            } catch (Exception e) {

            }

        }

    }

    public static void main(String args[]) {

        Slip15\_1 t = new Slip15\_1();

        t.start();

    }

}

B)Write a SERVLET program in java to accept details of student (SeatNo, Stud\_Name, Class, Total\_Marks). Calculate percentage & grade obtained and display details on page. [15M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\Slip15\_2.html**

<html>

<title> Student Detail Information</title>

<body>

<form name="frm" action="http://localhost:8085/ServletPrograms/Slip15\_2" method="post">

Enter RollNo:&nbsp<input type="text" name="r"><br><br>

Enter Name:&nbsp &nbsp <input type="text" name="n"><br><br>

Enter Class:&nbsp &nbsp<input type="text" name="c"><br><br>

Subject1\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s1"><br><br>

Subject2\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s2"><br><br>

Subject3\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s3"><br><br>

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

</form>

</body>

</html>

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\classes\Slip15\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class Slip15\_2 extends HttpServlet

{

int studno,sub1,sub2,sub3,total;

String sname,sclass;

float per;

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

{

res.setContentType("text/html");

PrintWriter out=res.getWriter();

studno=Integer.parseInt(req.getParameter("r"));

sname=req.getParameter("n");

sclass=req.getParameter("c");

sub1=Integer.parseInt(req.getParameter("s1"));

sub2=Integer.parseInt(req.getParameter("s2"));

sub3=Integer.parseInt(req.getParameter("s3"));

total=sub1+sub2+sub3;

per=(total/3);

out.println("...................Display Result...............<br><br>");

out.println("RollNo:-"+studno+"<br>");

out.println("Name:-"+sname+"<br>");

out.println("Class:-"+sclass+"<br>");

out.println("Subject1:-"+sub1+"<br>");

out.println("Subject2:-"+sub2+"<br>");

out.println("Subject3:-"+sub3+"<br>");

out.println("Total Marks Obtain:-"+total+"<br>");

out.println("Percentage:-"+per+"<br>");

out.println("..............Grade Obtain..............<br><br>");

if(per<50)

out.println("Pass Class<br>");

else if(per<60 && per>50)

out.println("Second Class <br>");

else if(per<70 && per>60)

out.println("First Class <br>");

else if( per>70)

out.println("Outstanding <br>");

}

}

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

version="4.0">

<servlet>

<servlet-name>Slip15\_2</servlet-name>

<servlet-class>Slip15\_2</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Slip15\_2</servlet-name>

<url-pattern>/Slip15\_2</url-pattern>

</servlet-mapping>

</web-app>

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip15\_2.html

**Abeda Inamdar Senior College (Autonomous) 16**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP script to accept username and password from user, if they are same then display “Login Successfully” message in Login.html file, otherwise display “Login Failed” Message in Error.html file. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ Slip16\_1\Slip16\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Login Page</title>

</head>

<body>

<h2>Login Page</h2>

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

Username: <input type="text" name="username"><br>

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

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

</form>

<%

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

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

if (username != null && password != null) {

if (username.equals(password)) {

%>

<%

response.sendRedirect("login.html");

%>

<%

} else {

%>

<%

response.sendRedirect("error.html");

%>

<%

}

}

%>

</body>

</html>

**login.html**

<html><body>

Login Successful

</body></html>

**error.html**

<html><body>

Login Failed

</body></html>

**Chrome Execution:** <http://localhost:8085/Slip16_1/Slip16_1.jsp>

B)Write a JSP page, which accepts user name in a text box and greets the user according to the time on server machine. [15 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ Slip16\_2\Slip16\_2.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

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

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Greeting Page</title>

</head>

<body>

<h2>Greeting Page</h2>

<%

// Get the current hour on the server

Date currentDate = new Date();

Calendar calendar = Calendar.getInstance();

calendar.setTime(currentDate);

int hour = calendar.get(Calendar.HOUR\_OF\_DAY);

// Define the greeting message based on the current hour

String greeting;

if (hour < 12) {

greeting = "Good morning";

} else if (hour < 18) {

greeting = "Good afternoon";

} else {

greeting = "Good evening";

}

// Get the username from the request parameter

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

// Display the greeting message

if (username != null && !username.isEmpty()) {

%>

<p><%= greeting %>, <%= username %>!</p>

<%

} else {

%>

<p>Please enter your name:</p>

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

<input type="text" name="username">

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

</form>

<%

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip16\_2/Slip16\_2.jsp

**Abeda Inamdar Senior College (Autonomous) 17**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A)Write a java program which will display name and priority of current thread. Change name of Thread to MyThread and set the priority to 2 and display it on screen. [10 M]

import java.lang.Thread;

class Slip17\_1 {

    public static void main(String args[]) {

        System.out.println("This is Main thread created by JVM");

        System.out.println("Name of Thread=" + Thread.currentThread().getName());

        Thread.currentThread().setName("MyThread");

        System.out.println("After Changing name of Main Thread=" + Thread.currentThread().getName());

        System.out.println("Priority of Thread=" + Thread.currentThread().getPriority());

        Thread.currentThread().setPriority(2);

        System.out.println("After changing Priority of Thread=" + Thread.currentThread().getPriority());

    }

}

1. Write a JDBC application using swing for the following: [15 M] Type DDL Query : Create Table Alter Table Drop Tabl

import java.io.\*;

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

import java.sql.\*;

class Slip17\_2 extends JFrame implements ActionListener {

JLabel l1;

JButton b1, b2, b3;

JTextArea t1;

Slip17\_2() {

setLayout(null);

l1 = new JLabel("Type DDL Query");

b1 = new JButton("Create Table");

b2 = new JButton("Alter Table");

b3 = new JButton("Drop Table");

t1 = new JTextArea();

l1.setBounds(20, 30, 100, 20);

t1.setBounds(150, 30, 250, 150);

b1.setBounds(10, 250, 120, 20);

b2.setBounds(130, 250, 120, 20);

b3.setBounds(250, 250, 120, 20);

add(l1);

add(t1);

add(b1);

add(b2);

add(b3);

b1.addActionListener(this);

b2.addActionListener(this);

b3.addActionListener(this);

setSize(440, 350);

setVisible(true);

}

public void actionPerformed(ActionEvent a) {

if (a.getSource() == b1) {

try {

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

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

Statement st = con.createStatement();

String str = t1.getText();

st.executeUpdate(str);

JOptionPane.showMessageDialog(null, "Table created");

t1.setText("");

con.close();

} catch (Exception e) {

System.out.println(e);

}

}

if (a.getSource() == b2) {

try {

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

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

Statement st = con.createStatement();

String str1 = t1.getText();

st.executeUpdate(str1);

JOptionPane.showMessageDialog(null, "Table altered");

con.close();

} catch (Exception e) {

System.out.println(e);

}

}

if (a.getSource() == b3) {

try {

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

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

Statement st = con.createStatement();

String str1 = t1.getText();

st.executeUpdate(str1);

JOptionPane.showMessageDialog(null, "Table droped");

con.close();

} catch (Exception e) {

System.out.println(e);

}

}

}

public static void main(String args[]) {

Slip17\_2 p = new Slip17\_2();

}

}

**Abeda Inamdar Senior College (Autonomous) 18**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a java program to calculate factorial of a number. (Use sleep () method). [10 M]

import java.util.Scanner;

public class Slip18\_1b {

    public static void main(String[] args) {

        Scanner scan = new Scanner(System.in);

        System.out.print("Enter a number: ");

        int number = scan.nextInt(); // The number for which factorial is to be calculated

        long factorial = 1;

        for (int i = 1; i <= number; i++) {

            factorial \*= i;

            try {

                Thread.sleep(1000); // Sleep for 1 second (1000 milliseconds)

            } catch (InterruptedException e) {

                e.printStackTrace();

            }

            System.out.println("Factorial of " + i + " = " + factorial);

        }

        System.out.println("Final Factorial of " + number + " = " + factorial);

    }

}

1. Write a java program using multithreading to execute the threads sequentially. (Use Synchronized keyword). [15 M]

class SequentialExecutor {

  private int counter = 1;

  public synchronized void first() {

    System.out.println("Thread 1: " + counter++);

  }

  public synchronized void second() {

    System.out.println("Thread 2: " + counter++);

  }

  public synchronized void third() {

    System.out.println("Thread 3: " + counter++);

  }

}

public class Slip18\_1 {

  public static void main(String[] args) {

    SequentialExecutor executor = new SequentialExecutor();

    Thread t1 = new Thread(() -> executor.first());

    Thread t2 = new Thread(() -> executor.second());

    Thread t3 = new Thread(() -> executor.third());

    t1.start();

    try {

      t1.join(); // Wait for thread 1 to finish

    } catch (InterruptedException e) {

      e.printStackTrace();

    }

    t2.start();

    try {

      t2.join(); // Wait for thread 2 to finish

    } catch (InterruptedException e) {

      e.printStackTrace();

    }

    t3.start();

  }

}

**Abeda Inamdar Senior College (Autonomous) 19**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Create a JSP page to accept a number from an user and display it in words: Example: 123 – One Two Three. The output should be in red color. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip19\_1\Slip19\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Number to Words Converter</title>

</head>

<body>

<h2>Number to Words Converter</h2>

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

Enter a number: <input type="text" name="number">

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

</form>

<%

String numberStr = request.getParameter("number");

if (numberStr != null && !numberStr.isEmpty()) {

String words = convertToWords(numberStr);

%>

<p style="color: red;"><%= words %></p>

<%

}

%>

<%!

String[] units = {"", "One", "Two", "Three", "Four", "Five", "Six", "Seven", "Eight", "Nine"};

String[] tens = {"", "Ten", "Twenty", "Thirty", "Forty", "Fifty", "Sixty", "Seventy", "Eighty", "Ninety"};

public String convertToWords(String numberStr) {

StringBuilder words = new StringBuilder();

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

int digit = Character.getNumericValue(numberStr.charAt(i));

if (i > 0) {

words.append(" ");

}

words.append(units[digit]);

}

return words.toString();

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip19\_1/Slip19\_1.jsp

B) Construct a Linked List containing name: CPP, Java, Python and PHP. Then extend your java program to do the following:

1. Display the contents of the List using an Iterator.

2. Display the contents of the List in reverse order using a ListIterator. [15 M]

import java.util.Iterator;

import java.util.LinkedList;

import java.util.ListIterator;

public class Slip19\_2{

    public static void main(String[] args) {

        LinkedList<String> languages = new LinkedList<>();

        languages.add("CPP");

        languages.add("Java");

        languages.add("Python");

        languages.add("PHP");

        // Display using Iterator

        System.out.println("Contents using Iterator:");

        Iterator<String> iterator = languages.iterator();

        while (iterator.hasNext()) {

            System.out.println(iterator.next());

        }

        // Display in reverse order using ListIterator

        System.out.println("\nContents in reverse order using ListIterator:");

        ListIterator<String> listIterator = languages.listIterator(languages.size());

        while (listIterator.hasPrevious()) {

            System.out.println(listIterator.previous());

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 20**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP program to display the details of Hospital (HNo, HName, Address) in tabular form on browser. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip20\_1\Slip20\_1**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

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

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Hospital Details</title>

</head>

<body>

<h2>Hospital Details</h2>

<table border="1">

<tr>

<th>Hospital No</th>

<th>Hospital Name</th>

<th>Address</th>

</tr>

<%

try {

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

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

Statement stmt = con.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM Hospital");

while (rs.next()) {

%>

<tr>

<td><%= rs.getString("HNo") %></td>

<td><%= rs.getString("HName") %></td>

<td><%= rs.getString("Address") %></td>

</tr>

<%

}

rs.close();

stmt.close();

con.close();

} catch (Exception e) {

e.printStackTrace();

}

%>

</table>

</body>

</html>

**Chrome Execution:** <http://localhost:8085/Slip20_1/Slip20_1.jsp>

B) Write a Socket program in java for chatting application. [15]

**Server.java**

import java.net.\*;

import java.io.\*;

import java.awt.\*;

import java.awt.event.\*;

class Server extends Frame implements ActionListener {

    static TextArea ta;

    static TextField tf;

    static Button b;

    static Socket s;

    static ServerSocket ss;

    static DataInputStream dis;

    static DataOutputStream dos;

    Server() {

        setLayout(new FlowLayout());

        ta = new TextArea(3, 20);

        tf = new TextField(30);

        b = new Button("Send");

        add(ta);

        add(tf);

        add(b);

        b.addActionListener(this);

        setVisible(true);

        setSize(300, 300);

        setTitle("Server Side");

        try {

            String msgclient = " ";

            ss = new ServerSocket(8888);

            s = ss.accept();

            dis = new DataInputStream(s.getInputStream());

            dos = new DataOutputStream(s.getOutputStream());

            while (!msgclient.equals("exit")) {

                msgclient = dis.readUTF();// hi,hello

                ta.setText(ta.getText() + " \n" + msgclient);

            }

        } catch (Exception e) {

        }

    }

    public void actionPerformed(ActionEvent k)// Sending Message

    {

        try {

            String msg = " ";

            msg = tf.getText().trim();

            dos.writeUTF(msg);

        } catch (Exception e) {

        }

    }

    public static void main(String args[]) {

        new Server();

    }

}

**Client.java**import java.net.\*;

import java.io.\*;

import java.awt.\*;

import java.awt.event.\*;

class Client extends Frame implements ActionListener {

    static TextArea ta;

    static TextField tf;

    static Button b;

    static Socket s;

    static ServerSocket ss;

    static DataInputStream dis;

    static DataOutputStream dos;

    Client() {

        setLayout(new FlowLayout());

        ta = new TextArea(3, 20);

        tf = new TextField(30);

        b = new Button("Send");

        add(ta);

        add(tf);

        add(b);

        b.addActionListener(this);

        setVisible(true);

        setSize(300, 300);

        setTitle("Client Side");

        try {

            String msgclient = " ";

            s = new Socket("localhost", 8888);

            dis = new DataInputStream(s.getInputStream());

            dos = new DataOutputStream(s.getOutputStream());

            while (!msgclient.equals("exit")) {

                msgclient = dis.readUTF();

                ta.setText(ta.getText() + " \n" + msgclient);

            }

        } catch (Exception e) {

        }

    }

    public void actionPerformed(ActionEvent k) {

        try {

            String msg = " ";

            msg = tf.getText().trim();

            dos.writeUTF(msg);

        } catch (Exception e) {

        }

    }

    public static void main(String args[]) {

        new Client();

    }

}

**Abeda Inamdar Senior College (Autonomous) 21**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JDBC Program in java to display the names of Employees starting with ‘ S’character. [10 M]

import java.sql.\*;

public class Slip21\_1 {

    public static void main(String[] args) {

        try {

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

            Connection connection = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            Statement statement = connection.createStatement();

            ResultSet resultSet = statement.executeQuery("SELECT name FROM Employees WHERE name LIKE 'S%'");

            System.out.println("Employees whose names start with 'S':");

            while (resultSet.next()) {

                System.out.println(resultSet.getString("name"));

            }

        } catch (Exception e){

            e.printStackTrace();

        }

    }

}

B)Write a SERVLET program in java to accept details of student (SeatNo, Stud\_Name, Class, Total\_Marks). Calculate percentage and grade obtained and display details on page. [15 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\classes\Slip21\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class Slip21\_2 extends HttpServlet

{

int studno,sub1,sub2,sub3,total;

String sname,sclass;

float per;

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

{

res.setContentType("text/html");

PrintWriter out=res.getWriter();

studno=Integer.parseInt(req.getParameter("r"));

sname=req.getParameter("n");

sclass=req.getParameter("c");

sub1=Integer.parseInt(req.getParameter("s1"));

sub2=Integer.parseInt(req.getParameter("s2"));

sub3=Integer.parseInt(req.getParameter("s3"));

total=sub1+sub2+sub3;

per=(total/3);

out.println("...................Display Result...............<br><br>");

out.println("RollNo:-"+studno+"<br>");

out.println("Name:-"+sname+"<br>");

out.println("Class:-"+sclass+"<br>");

out.println("Subject1:-"+sub1+"<br>");

out.println("Subject2:-"+sub2+"<br>");

out.println("Subject3:-"+sub3+"<br>");

out.println("Total Marks Obtain:-"+total+"<br>");

out.println("Percentage:-"+per+"<br>");

out.println("..............Grade Obtain..............<br><br>");

if(per<50)

out.println("Pass Class<br>");

else if(per<60 && per>50)

out.println("Second Class <br>");

else if(per<70 && per>60)

out.println("First Class <br>");

else if( per>70)

out.println("Outstanding <br>");

}

}

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\Slip21\_2.html**

<html>

<title> Student Detail Information</title>

<body>

<form name="frm" action="http://localhost:8085/ServletPrograms/Slip21\_2" method="get">

Enter RollNo:&nbsp<input type="text" name="r"><br><br>

Enter Name:&nbsp &nbsp <input type="text" name="n"><br><br>

Enter Class:&nbsp &nbsp<input type="text" name="c"><br><br>

Subject1\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s1"><br><br>

Subject2\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s2"><br><br>

Subject3\_Marks:&nbsp &nbsp &nbsp<input type="text" name="s3"><br><br>

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

</form>

</body>

</html>

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip21\_2.html

**Abeda Inamdar Senior College (Autonomous) 22**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a socket program in java in which client accept a number, send it to the server,server calculates its factorial and sends result to the client. [10 M]

**Server.java**import java.net.\*;

import java.io.\*;

class Server {

    public static void main(String args[]) {

        try {

            ServerSocket ss = new ServerSocket(7777);

            Socket s = ss.accept(); // establing connection

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());

            DataInputStream dis = new DataInputStream(s.getInputStream());

            System.out.println("Receive data from Client");

            String str1 = dis.readUTF(); // "4"

            int no = Integer.parseInt(str1);// type casting no=4

            int fact = 1;

            for (int i = 1; i <= no; i++) {

                fact = fact \* i; // 24

            }

            System.out.println("Send RFesult to Client");

            String str = String.valueOf(fact);// "24"

            dos.writeUTF(str);

        }

        catch (Exception e) {

        }

    }

}

**Client.java**

import java.io.\*;

import java.net.\*;

import java.util.\*;

class Client {

    public static void main(String args[]) {

        try {

            Socket s = new Socket("localhost", 7777);

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());// writting

            DataInputStream dis = new DataInputStream(s.getInputStream());// reading

            BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

            while (true) {

                System.out.println("Send No to Server");

                String data = br.readLine();

                dos.writeUTF(data);

                System.out.println("Recieve Factor of no sent by client");

                System.out.println(dis.readUTF());

            }

        } catch (Exception e) {

        }

    }

}

B) Write a java program to create a student table with field’s rno, name and per. Insert values in the table. Display all the details of the student on screen. (Use PreparedStatement interface) [15 M]

import java.sql.\*;

public class Slip22\_2 {

    public static void main(String[] args) {

        try {

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

            Connection connection = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            PreparedStatement createTableStatement = connection.prepareStatement("CREATE TABLE Student (rno INT, name VARCHAR(50), per INT)");

            createTableStatement.executeUpdate();

            System.out.println("Student table created successfully.");

            PreparedStatement insertStatement = connection.prepareStatement("INSERT INTO Student (rno, name, per) VALUES (?, ?, ?)");

            insertStatement.setInt(1, 1);

            insertStatement.setString(2, "John");

            insertStatement.setInt(3, 85);

            insertStatement.executeUpdate();

            insertStatement.setInt(1, 2);

            insertStatement.setString(2, "Alice");

            insertStatement.setInt(3, 78);

            insertStatement.executeUpdate();

            System.out.println("Values inserted into the student table.");

            PreparedStatement selectStatement = connection.prepareStatement("SELECT \* FROM Student");

            ResultSet resultSet = selectStatement.executeQuery();

            System.out.println("Details of the students:");

            System.out.println("Roll No\tName\tPercentage");

            while (resultSet.next()) {

                int rollNo = resultSet.getInt("rno");

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

                float percentage = resultSet.getFloat("per");

                System.out.println(rollNo + "\t" + name + "\t" + percentage);

            }

            // Close the connection, statements, and result set

            resultSet.close();

            selectStatement.close();

            insertStatement.close();

            createTableStatement.close();

            connection.close();

        } catch (Exception e){

            e.printStackTrace();

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 23**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP script to accept the details of Student (RNo, SName, Gender, Comp\_Know , Class) and display it on the browser. Use appropriate controls for accepting data. [10M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip23\_1\Slip23\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Student Details Form</title>

</head>

<body>

<h2>Student Details Form</h2>

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

Roll Number: <input type="text" name="rno"><br>

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

Gender:

<input type="radio" name="gender" value="Male"> Male

<input type="radio" name="gender" value="Female"> Female<br>

Computer Knowledge:

<select name="compKnow">

<option value="Yes">Yes</option>

<option value="No">No</option>

</select><br>

Class: <input type="text" name="class"><br>

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

</form>

<%

// Retrieve form data and display it

if (request.getMethod().equals("POST")) {

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

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

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

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

String classValue = request.getParameter("class");

out.println("<h2>Student Details:</h2>");

out.println("<p>Roll Number: " + rno + "</p>");

out.println("<p>Name: " + sname + "</p>");

out.println("<p>Gender: " + gender + "</p>");

out.println("<p>Computer Knowledge: " + compKnow + "</p>");

out.println("<p>Class: " + classValue + "</p>");

}

%>

</body>

</html>

**Chrome Execution:** <http://localhost:8085/Slip23_1/Slip23_1.jsp>

B) Write a SERVLET application to accept username and password, if found correct then display appropriate message on the browser otherwise display error message. [15 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\classes\Slip23\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class Slip23\_2 extends HttpServlet {

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

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

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

try {

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

Connection conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","system");

PreparedStatement pstmt = conn.prepareStatement("SELECT \* FROM users WHERE username=? AND password=?");

pstmt.setString(1, username);

pstmt.setString(2, password);

ResultSet rs = pstmt.executeQuery();

// Check if the user exists

if(rs.next())

out.println("Valid user");

else

out.println("Invalid user");

} catch (ClassNotFoundException | SQLException e) {

out.println("Exception: " + e.getMessage());

}

}

}

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\Slip23.html**

<!DOCTYPE html>

<html>

<head>

<title>Login Page</title>

</head>

<body>

<h2>Login</h2>

<form action="http://localhost:8085/ServletPrograms/Slip23\_2" method="post">

Username: <input type="text" id="username" name="username"><br>

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

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

</form>

</body>

</html>

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

version="4.0">

<servlet>

<servlet-name>Slip23\_2</servlet-name>

<servlet-class>Slip23\_2</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Slip23\_2</servlet-name>

<url-pattern>/Slip23\_2</url-pattern>

</servlet-mapping>

</web-app>

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip23\_2.html

**Abeda Inamdar Senior College (Autonomous) 24**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP script to check whether given mail ID is valid or not. (Mail ID should contain one @ symbol) [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip24\_1\Slip24\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Email Validation</title>

</head>

<body>

<h2>Email Validation</h2>

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

Enter Email ID: <input type="text" name="email">

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

</form>

<%!

// Method to validate email

boolean isValidEmail(String email) {

int atCount = 0;

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

if (email.charAt(i) == '@') {

atCount++;

}

}

return atCount == 1;

}

%>

<%

if (request.getMethod().equals("POST")) {

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

boolean isValid = isValidEmail(email);

if (isValid) {

%>

<p style="color: green;"><%= email %> is a valid email ID.</p>

<%

} else {

%>

<p style="color: red;"><%= email %> is not a valid email ID. Email should contain one '@' symbol.</p>

<%

}

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip24\_1/Slip24\_1.jsp

B) Write a java program to accept the details of college (CID, CName, Address, year) and store it into database (Use Swing and PreparedStatement interface) [15M

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

import java.sql.\*;

public class Slip24\_2 extends JFrame implements ActionListener {

    JLabel lblCID, lblCName, lblAddress, lblYear;

    JTextField txtCID, txtCName, txtAddress, txtYear;

    JButton btnSave;

    public Slip24\_2() {

        setTitle("College Details Form");

        setSize(400, 300);

        setLayout(new GridLayout(5, 2));

        lblCID = new JLabel("College ID:");

        lblCName = new JLabel("College Name:");

        lblAddress = new JLabel("Address:");

        lblYear = new JLabel("Year:");

        txtCID = new JTextField();

        txtCName = new JTextField();

        txtAddress = new JTextField();

        txtYear = new JTextField();

        btnSave = new JButton("Save");

        btnSave.addActionListener(this);

        add(lblCID);

        add(txtCID);

        add(lblCName);

        add(txtCName);

        add(lblAddress);

        add(txtAddress);

        add(lblYear);

        add(txtYear);

        add(new JLabel()); // Empty label for alignment

        add(btnSave);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setVisible(true);

    }

    public void actionPerformed(ActionEvent e) {

        if (e.getSource() == btnSave) {

            saveCollegeDetails();

        }

    }

    private void saveCollegeDetails() {

        try {

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            PreparedStatement pstmt = con.prepareStatement("INSERT INTO College (CID, CName, Address, Year) VALUES (?, ?, ?, ?)");

            pstmt.setInt(1, Integer.parseInt(txtCID.getText()));

            pstmt.setString(2, txtCName.getText());

            pstmt.setString(3, txtAddress.getText());

            pstmt.setInt(4, Integer.parseInt(txtYear.getText()));

            int rowsInserted = pstmt.executeUpdate();

            if (rowsInserted > 0) {

                JOptionPane.showMessageDialog(this, "College details saved successfully!");

            } else {

                JOptionPane.showMessageDialog(this, "Failed to save college details.");

            }

            pstmt.close();

            con.close();

        } catch (Exception e) {

            e.printStackTrace();

        }

    }

    public static void main(String[] args) {

        SwingUtilities.invokeLater(() -> new Slip24\_2());

    }

}

**Abeda Inamdar Senior College (Autonomous) 25**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a Java program to accept a number through client terminal, send it to the Server, Server calculates its factors and sends it to the client. [10 M]

**Server.java**import java.net.\*;

import java.io.\*;

class Server {

    public static void main(String args[]) {

        try {

            ServerSocket ss = new ServerSocket(7777);

            Socket s = ss.accept(); // establing connection

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());

            DataInputStream dis = new DataInputStream(s.getInputStream());

            System.out.println("Receive data from Client");

            String str1 = dis.readUTF(); // "4"

            int no = Integer.parseInt(str1);// type casting no=4

            int fact = 1;

            System.out.println("Send Result to Client");

            StringBuilder factors = new StringBuilder();

            for (int i = 1; i <= no; i++) {

                if (no % i == 0) {

                    factors.append(i).append(" ");

                }

            }

            String str = factors.toString().trim();

            dos.writeUTF(str);

        } catch (Exception e) {

            e.printStackTrace();

        }

    }

}

**Client.java**import java.io.\*;

import java.net.\*;

import java.util.\*;

class Client {

    public static void main(String args[]) {

        try {

            Socket s = new Socket("localhost", 7777);

            DataOutputStream dos = new DataOutputStream(s.getOutputStream());// writting

            DataInputStream dis = new DataInputStream(s.getInputStream());// reading

            BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

            while (true) {

                System.out.println("Send No to Server");

                String data = br.readLine();

                dos.writeUTF(data);

                System.out.println("Recieve Factor of no sent by client");

                System.out.println(dis.readUTF());

            }

        } catch (Exception e) {

        }

    }

}

B) Write a java program for implementation scrollable ResultSet. Consider Emp table (eno ename, sal)

-moveFirst

-moveNext

-movePrevious

-moveLast [15 M

import java.sql.\*;

import java.util.\*;

public class Slip25\_2 {

    public static void main(String args[]) {

        int no;

        Scanner s = new Scanner(System.in);

        try {

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            // Statement st=con.createStatement();

            PreparedStatement ps = con.prepareStatement("insert into emp values(?,?)");

            System.out.println("how many records u want enter?");

            int n = s.nextInt();

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

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

                int id = s.nextInt();

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

                String str = s.next();

                ps.setInt(1, id);

                ps.setString(2, str);

                ps.executeUpdate();

            }

            Statement st = con.createStatement(ResultSet.TYPE\_SCROLL\_INSENSITIVE, ResultSet.CONCUR\_READ\_ONLY);

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

            do {

                System.out.println("...........MENU...........");

                System.out.println("1.Next");

                System.out.println("2.First");

                System.out.println("3.Previous");

                System.out.println("4.Last");

                System.out.println("5.Exit");

                System.out.println("Enter your choice");

                no = s.nextInt();

                switch (no) {

                    case 1:

                        System.out.println("Display Next Record");

                        rs.next();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 2:

                        System.out.println("Display First Record");

                        rs.first();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 3:

                        System.out.println("Display Previous Record");

                        rs.previous();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 4:

                        System.out.println("Display Last Record");

                        rs.last();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 5:

                        System.exit(0);

                        break;

                }

            } while (no != 5);

        } catch (Exception e) {

            System.out.println(e);

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 26**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a multithreading program in java to display all the alphabets from A to Z after 3 seconds [10 M]

import java.lang.\*;

class Slip26\_1 extends Thread {

    char c;

    public void run() {

        for (c = 'A'; c <= 'z'; c++) {

            System.out.println(c);

            try {

                Thread.sleep(3000);

            } catch (Exception e) {

            }

        }

    }

    public static void main(String args[]) {

        Slip26\_1 t = new Slip26\_1();

        t.start();

    }

}

1. Write a JSP program to check given number is perfect number or not. [15 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\ webapps\Slip26\_2\Slip26\_2.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Perfect Number Checker</title>

</head>

<body>

<h2>Perfect Number Checker</h2>

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

Enter a number: <input type="text" name="number">

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

</form>

<%

if (request.getMethod().equals("POST")) {

int number = Integer.parseInt(request.getParameter("number"));

boolean isPerfect = isPerfectNumber(number);

if (isPerfect) {

%>

<p><%= number %> is a perfect number.</p>

<%

} else {

%>

<p><%= number %> is not a perfect number.</p>

<%

}

}

%>

<%!

// Method to check if a number is perfect

boolean isPerfectNumber(int num) {

int sum = 1; // 1 is always a divisor of any number

for (int i = 2; i \* i <= num; i++) {

if (num % i == 0) {

sum += i;

if (i != num / i) { // avoid counting square root twice

sum += num / i;

}

}

}

return sum == num && num != 1; // Check if sum of divisors equals the number

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip26\_2/Slip26\_2.jsp

**Abeda Inamdar Senior College (Autonomous) 27**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP script to accept the details of Teacher (TID, TName, Desg, Subject, Qualification) and display it on the browser. Use appropriate controls for accepting data. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip27\_1\Slip27\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Teacher Details Form</title>

</head>

<body>

<h2>Teacher Details Form</h2>

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

Teacher ID: <input type="text" name="tid"><br>

Teacher Name: <input type="text" name="tname"><br>

Designation: <input type="text" name="desg"><br>

Subject: <input type="text" name="subject"><br>

Qualification: <input type="text" name="qualification"><br>

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

</form>

<%

if (request.getMethod().equals("POST")) {

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

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

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

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

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

%>

<h2>Teacher Details:</h2>

<p>Teacher ID: <%= tid %></p>

<p>Teacher Name: <%= tname %></p>

<p>Designation: <%= desg %></p>

<p>Subject: <%= subject %></p>

<p>Qualification: <%= qualification %></p>

<%

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip27\_1/Slip27\_1.jsp

1. Write a Java Program for the implementation of scrollable ResultSet. Assume Teacher table with attributes (TID, TName, Salary, Subject) is already created. [15 M]

import java.sql.\*;

import java.util.\*;

public class Slip27\_2 {

    public static void main(String args[]) {

        try {

            Scanner s = new Scanner(System.in);

            int no;

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            Statement st = con.createStatement(ResultSet.TYPE\_SCROLL\_INSENSITIVE, ResultSet.CONCUR\_READ\_ONLY);

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

            do {

                System.out.println("...........MENU...........");

                System.out.println("1.Next");

                System.out.println("2.First");

                System.out.println("3.Previous");

                System.out.println("4.Last");

                System.out.println("5.Exit");

                System.out.println("Enter your choice");

                no = s.nextInt();

                switch (no) {

                    case 1:

                        System.out.println("Display Next Record");

                        rs.next();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 2:

                        System.out.println("Display First Record");

                        rs.first();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 3:

                        System.out.println("Display Previous Record");

                        rs.previous();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 4:

                        System.out.println("Display Last Record");

                        rs.last();

                        System.out.println("Teacher ID:" + rs.getInt(1));

                        System.out.println("Teacher Name:" + rs.getString(2));

                        break;

                    case 5:

                        System.exit(0);

                        break;

                }

            } while (no != 5);

        } catch (Exception e) {

            System.out.println(e);

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 28**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP program to check whether given number is Armstrong or not. (Use Include directive). [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip28\_1\Slip28\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Armstrong Number Checker</title>

</head>

<body>

<h2>Armstrong Number Checker</h2>

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

Enter a number: <input type="text" name="number">

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

</form>

<%

if (request.getMethod().equals("POST")) {

int number = Integer.parseInt(request.getParameter("number"));

int originalNumber = number;

int result = 0;

int digits = String.valueOf(originalNumber).length();

while (originalNumber != 0) {

int remainder = originalNumber % 10;

result += Math.pow(remainder, digits);

originalNumber /= 10;

}

if (result == number) {

%>

<p><%= number %> is an Armstrong number.</p>

<%

} else {

%>

<p><%= number %> is not an Armstrong number.</p>

<%

}

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip28\_1/Slip28\_1.jsp

B) Create table Furniture(furniture id,furniture name,price,type).Insert 5 records in the database and display furniture of price greater than 2000.(use PreparedStatement).

import java.sql.\*;

public class Slip28\_2 {

public static void main(String[] args) {

try {

// Load the Oracle JDBC driver

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

// Connect to the database

Connection conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

// Create the Furniture table

Statement stmt = conn.createStatement();

String createTableSQL = "CREATE TABLE Furniture (" +

"furniture\_id NUMBER PRIMARY KEY," +

"furniture\_name VARCHAR2(50)," +

"price NUMBER," +

"type VARCHAR2(50))";

stmt.executeUpdate(createTableSQL);

// Create a PreparedStatement

PreparedStatement pstmt = conn.prepareStatement("INSERT INTO Furniture VALUES (?, ?, ?, ?)");

// Insert 5 records into the Furniture table

pstmt.setInt(1, 1);

pstmt.setString(2, "Chair");

pstmt.setDouble(3, 1500);

pstmt.setString(4, "Wooden");

pstmt.executeUpdate();

pstmt.setInt(1, 2);

pstmt.setString(2, "Table");

pstmt.setDouble(3, 2500);

pstmt.setString(4, "Glass");

pstmt.executeUpdate();

pstmt.setInt(1, 3);

pstmt.setString(2, "Sofa");

pstmt.setDouble(3, 3000);

pstmt.setString(4, "Leather");

pstmt.executeUpdate();

pstmt.setInt(1, 4);

pstmt.setString(2, "Bed");

pstmt.setDouble(3, 4000);

pstmt.setString(4, "Metal");

pstmt.executeUpdate();

pstmt.setInt(1, 5);

pstmt.setString(2, "Desk");

pstmt.setDouble(3, 1800);

pstmt.setString(4, "Wooden");

pstmt.executeUpdate();

// Query furniture with price greater than 2000

PreparedStatement queryStmt = conn.prepareStatement("SELECT \* FROM Furniture WHERE price > ?");

queryStmt.setDouble(1, 2000);

ResultSet rs = queryStmt.executeQuery();

// Display the result

System.out.println("Furniture with price greater than 2000:");

while (rs.next()) {

System.out.println("ID: " + rs.getInt("furniture\_id") + ", Name: " + rs.getString("furniture\_name") +

", Price: " + rs.getDouble("price") + ", Type: " + rs.getString("type"));

}

// Close connections

rs.close();

queryStmt.close();

pstmt.close();

stmt.close();

conn.close();

} catch (Exception e) {

e.printStackTrace();

}

}

}

**Abeda Inamdar Senior College (Autonomous) 29**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP program to accept Name and Age of Voter and check whether he is eligible for voting or not. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip29\_1\Slip29\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Voter Eligibility Checker</title>

</head>

<body>

<h2>Voter Eligibility Checker</h2>

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

Enter your name: <input type="text" name="name"><br>

Enter your age: <input type="number" name="age"><br>

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

</form>

<%

if (request.getMethod().equals("POST")) {

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

int age = Integer.parseInt(request.getParameter("age"));

String message = "";

if (age >= 18) {

message = "Congratulations, " + name + "! You are eligible to vote.";

} else {

message = "Sorry, " + name + ". You are not eligible to vote yet. Please wait until you turn 18.";

}

%>

<p><%= message %></p>

<%

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip29\_1/Slip29\_1.jsp

B) Write a menu driven java program for the following:

Insert

Update

Delete

Search

Display

Exit

Consider Student (rno, sname, per) table for this. [15 M

import java.util.\*;

import java.io.\*;

import java.sql.\*;

class Slip29\_2 {

    public static void main(String args[]) {

        Scanner s = new Scanner(System.in);

        int rno, k, ch;

        int n;

        float per;

        String nm;

        try {

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

            Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "system");

            Statement st = con.createStatement();

            do {

                System.out.println(" 1. Insert \n 2. Update \n 3. Delete \n 4. Search \n 5. Display \n 6. Exit");

                System.out.print("Enter your choice: ");

                ch = s.nextInt();

                switch (ch) {

                    case 1:

                        System.out.print("How many records you want to inserted ? ");

                        n = s.nextInt();

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

                            System.out.println("Enter Roll No : ");

                            rno = s.nextInt();

                            System.out.println("Enter Name : ");

                            nm = s.next();

                            System.out.println("Enter Percentage: ");

                            per = s.nextFloat();

                            String s1 = "insert into students values(?,?,?)";

                            PreparedStatement p = con.prepareStatement(s1);

                            p.setInt(1, rno);

                            p.setString(2, nm);

                            p.setFloat(3, per);

                            k = p.executeUpdate();

                            /\*

                             \* if(k>0)

                             \* {

                             \* System.out.println("Record Inserted Successfully..!!");

                             \* }

                             \*/

                        }

                        break;

                    case 2:

                        System.out.print("Enter the Roll no: ");

                        rno = s.nextInt();

                        System.out.print("Enter the Sname: ");

                        nm = s.next();

                        String s2 = "update students set sname=nm where rno=rno";

                        PreparedStatement p = con.prepareStatement(s2);

                        p.setInt(1, rno);

                        p.setString(2, nm);

                        k = p.executeUpdate();

                        if (k > 0) {

                            System.out.println("Record Is Updated..!!");

                        }

                        break;

                    case 3:

                        System.out.print("Enter the Roll no: ");

                        rno = s.nextInt();

                        k = st.executeUpdate("delete from students where rno=rno");

                        if (k > 0) {

                            System.out.println("Record Is Deleted..!!");

                        }

                        break;

                    case 4:

                        System.out.print("Enter the Roll no Whoes search record: ");

                        rno = s.nextInt();

                        ResultSet rs1 = st.executeQuery("select \* from students where rno=" + rno);

                        while (rs1.next()) {

                            System.out.println(rs1.getInt(1) + "\t" + rs1.getString(2) + "\t" + rs1.getFloat(3));

                        }

                        break;

                    case 5:

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

                        while (rs.next()) {

                            System.out.println(rs.getInt(1) + "\t" + rs.getString(2) + "\t" + rs.getFloat(3));

                        }

                        break;

                    case 6:

                        System.exit(0);

                }

            } while (ch != 6);

        } catch (Exception e) {

        }

    }

}

**Abeda Inamdar Senior College (Autonomous) 30**

**T.Y.B.B.A. (C.A.) Semester – VI (CBCS 2021 Pattern) Practical Examination Lab Course: (21CBCA366) Computer Laboratory Based on 363, 364**

**Advanced Java, Android / Dot Net Framework**

**Time: - 3 Hours] [Marks: - 60]**

**Q.1. Advanced Java:**

A) Write a JSP program to display all the odd number’s between 1 to n in “Blue”Color. [10 M]

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\Slip30\_1\Slip30\_1.jsp**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Odd Numbers</title>

</head>

<body>

<h2>Odd Numbers between 1 to n in Blue Color</h2>

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

Enter value of n: <input type="number" name="n">

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

</form>

<%

if (request.getMethod().equals("POST")) {

int n = Integer.parseInt(request.getParameter("n"));

%>

<p>

<%

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

if (i % 2 != 0) { %>

<span style="color: blue;"><%= i %></span>&nbsp;

<% }

}

%>

</p>

<%

}

%>

</body>

</html>

**Chrome Execution:** http://localhost:8085/Slip30\_1/Slip30\_1.jsp

B) Write a servlet program to display the details of Product (ProdCode, PName, Price) on the browser in tabular format. (Use database). [15 M

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\Slip30\_2.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Product Details</title>

</head>

<body>

<h2>Display Product Details</h2>

<form action="http://localhost:8085/ServletPrograms/Slip30\_2" method="get">

<input type="submit" value="Show Product Details">

</form>

</body>

</html>

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\classes\Slip30\_2.java**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class Slip30\_2 extends HttpServlet

{

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

{

res.setContentType("text/html");

PrintWriter out=res.getWriter();

out.println("Display the details of Product");

try

{

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

Connection con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","system");

Statement st=con.createStatement();

String str="select \* from product";

ResultSet rs=st.executeQuery(str);

out.println("<table border=1 bgcolor='yellow'>"+"<tr bgcolor='red'>"+"<th>ProCode</th><th>ProName</th><th>Price</th>");

while(rs.next())

{

out.println("<tr>"+

"<td>"+rs.getInt(1)+"</td>"+

"<td>"+rs.getString(2)+"</td>"+

"<td>"+rs.getInt(3)+"</td>"+

"</tr>");

}

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

}

catch(Exception e){}

}

}

**C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ServletPrograms\WEB-INF\web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"

version="4.0">

<servlet>

<servlet-name>Slip30\_2</servlet-name>

<servlet-class>Slip30\_2</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Slip30\_2</servlet-name>

<url-pattern>/Slip30\_2</url-pattern>

</servlet-mapping>

</web-app>

**Chrome Execution:** http://localhost:8085/ServletPrograms/Slip30\_2.html