All practicals are not in exact order as prescribed by mumbai university syllabus but they do implement all concepts suggested by university.
These practicals are not complete.

Every college has different way to conduct practicals so it is advised to consult with your college.

Kindly rectify errors if any.

Thanks

PRAC 1:

PRAC 1A:

/* Write a swing application to create the student details form consisting of two tabs. The first tab should display personal details of students & the second tab should display educational details. Use various components to create GUI & add appropriate listener to form. */

```
import java.awt.*;
importjavax.swing.*;
importjava.awt.event.*;

public class Pract1 extends JFrame
{
	public static void main(String args[])
	{
		Pract1 p1=new Pract1();
		p1.setSize(300,270);
		p1.setVisible(true);
		p1.setTitle("Student Details");
		p1.setLocation(300,300);
		p1.setDefaultCloseOperation(EXIT_ON_CLOSE);
	}

	public Pract1()
	{
		Container cp=getContentPane();
		JTabbedPane jtb=new JTabbedPane();
		jtb.addTab("Personal Detail",newPersonalpanel());
		jtb.addTab("Educational Detail",newEducationalpanel());
		cp.add(jtb);
	}

	public class Personalpanel extends JPanel implements ActionListener
	{
		JLabeljlrollno,jlname,jladd,jlgender;
		JButtonbtnew,btexit;
		JTextFieldjtfroll,jtfname;
```

```
JTextAreajtadd;
ButtonGroupbg;
JRadioButton jr1,jr2;
JScrollPanejsp;

public Personalpanel()
{
	setLayout(null);
	jlrollno=new JLabel("Roll No",JLabel.RIGHT);
	jlrollno.setBounds(20,10,80,20);
	add(jlrollno);

	jtfroll=new JTextField(15);
	jtfroll.setBounds(120,10,80,20);
	jtfroll.setEditable(false);
	add(jtfroll);

	jlname=new JLabel("Name",JLabel.RIGHT);
	jlname.setBounds(20,40,80,20);
	add(jlname);

	jtfname=new JTextField(15);
	jtfname.setBounds(120,40,80,20);
	jtfname.setEditable(false);
	add(jtfname);

	jladd=new JLabel("Address",JLabel.RIGHT);
	jladd.setBounds(20,70,80,20);
	add(jladd);

	jtadd=new JTextArea();
	jtadd.setEditable(false);

	jsp=new
JScrollPane(jtadd,ScrollPaneConstants.VERTICAL_SCROLLBAR_ALWAYS,ScrollPane

Constants.HORIZONTAL_SCROLLBAR_ALWAYS);
	jsp.setBounds(120,70,120,40);
	add(jsp);

	jlgender=new JLabel("Gender",JLabel.RIGHT);
	jlgender.setBounds(20,110,80,20);
	add(jlgender);

	jr1=new JRadioButton("Male");
	jr1.setBounds(120,110,80,20);
	jr1.setEnabled(false);

	jr2=new JRadioButton("Female");
	jr2.setBounds(120,140,80,20);
```

```
		jr2.setEnabled(false);

		bg=new ButtonGroup();
		bg.add(jr1);
		bg.add(jr2);

		add(jr1);
		add(jr2);

		btnew=new JButton("New");
		btnew.setBounds(70,170,80,20);
		btnew.addActionListener(this);
		add(btnew);

		btexit=new JButton("Exit");
		btexit.setBounds(160,170,80,20);
		btexit.addActionListener(this);
		add(btexit);
}
public void actionPerformed(ActionEvent ae)
{
		if(ae.getSource()==btnew)
		{
			if(btnew.getText()=="New")
			{
				jtfroll.setEditable(true);
				jtfname.setEditable(true);
				jtadd.setEditable(true);
				jr1.setEnabled(true);
				jr2.setEnabled(true);
				btnew.setText("Clear");
			}

			else if(btnew.getText()=="Clear")
			{
				jtfroll.setText(" ");
				jtfroll.setEditable(false);
				jtfname.setText(" ");
				jtfname.setEditable(false);
				jtadd.setEditable(false);
				jtadd.setText(" ");
				jr1.setEnabled(false);
				jr2.setEnabled(false);
				btnew.setText("New");
			}
		}
		if(ae.getSource()==btexit)
		{
			System.exit(0);
		}
```

```
		}
	}
	public class Educationalpanel extends JPanel implements ItemListener
	{
		JLabeljlclass;
		JComboBoxjcb;
		JCheckBoxc,web,maths,cg,oops,os,java,net,linux;

		public Educationalpanel()
		{
			jlclass=new JLabel("Class",JLabel.RIGHT);
			jlclass.setBounds(20,10,80,20);
			add(jlclass);

			String[]
subject={"F.Y.B.Sc.I.T","S.Y.B.Sc.I.T","T.Y.B.Sc.I.T"};
			jcb=new JComboBox(subject);
			jcb.addItemListener(this);
			jcb.setBounds(120,10,120,20);
			add(jcb);

			c=new JCheckBox("c++");
			c.setBounds(20,40,80,20);
			c.setVisible(false);
			add(c);

			web=new JCheckBox("Web");
			web.setBounds(110,40,80,20);
			web.setVisible(false);
			add(web);

			maths=new JCheckBox("Maths1");
			maths.setBounds(200,40,80,20);
			maths.setVisible(false);
			add(maths);

			cg=new JCheckBox("Cg");
			cg.setBounds(20,40,80,20);
			cg.setVisible(false);
			add(cg);

			oops=new JCheckBox("Oops");
			oops.setBounds(110,40,80,20);
			oops.setVisible(false);
			add(oops);

			os=new JCheckBox("Os");
			os.setBounds(200,40,80,20);
			os.setVisible(false);
			add(os);
```

```
		java=new JCheckBox("Java");
		java.setBounds(20,40,80,20);
		java.setVisible(false);
		add(java);

		net=new JCheckBox(".Net");
		net.setBounds(110,40,80,20);
		net.setVisible(false);
		add(net);

		linux=new JCheckBox("Linux");
		linux.setBounds(200,40,80,20);
		linux.setVisible(false);
		add(linux);
}
public void itemStateChanged(ItemEvent ie)
{
		String s=(String)ie.getItem();
		System.out.println(s);
		if(s=="F.Y.B.Sc.I.T")
		{
			c.setVisible(true);
			web.setVisible(true);
			maths.setVisible(true);
			cg.setVisible(false);
			oops.setVisible(false);
			os.setVisible(false);
			java.setVisible(false);
			net.setVisible(false);
			linux.setVisible(false);

		}
		else if(s=="S.Y.B.Sc.I.T")
		{
			c.setVisible(false);
			web.setVisible(false);
			maths.setVisible(false);
			cg.setVisible(true);
			oops.setVisible(true);
			os.setVisible(true);
			java.setVisible(false);
			net.setVisible(false);
			linux.setVisible(false);
		}
		else
		{
			c.setVisible(false);
			web.setVisible(false);
			maths.setVisible(false);
```

```
                    cg.setVisible(false);
                    oops.setVisible(false);
                    os.setVisible(false);
                    java.setVisible(true);
                    net.setVisible(true);
                    linux.setVisible(true);
                }
            }
        }
    }
```

PRAC 1B:

```
/*
Write a program to present a set of choice for user to select stationary products and display the price of products after selection from the list.
*/


import java.awt.*;
import javax.swing.*;
import javax.swing.event.*;
import java.awt.event.*;

public class Pract2 extends JFrame implements ListSelectionListener
{
	JLabel jl1;
	JList list;
	JTextFieldjtf;
	String name[]={"BOOKS","PEN","PENCIL","SHARPENER","SCALE"};

	public Pract2()
	{
		Container cp=getContentPane();
		cp.setLayout(new BorderLayout());
		jl1=new JLabel("Select a product");
		cp.add(jl1,BorderLayout.NORTH);
		list=new JList(name);
		list.addListSelectionListener(this);
		cp.add(list,BorderLayout.CENTER);
		jtf=new JTextField(15);
		cp.add(jtf,BorderLayout.SOUTH);
	}

		public void valueChanged(ListSelectionEvent le)
		{
			int i=list.getSelectedIndex();
			if(i==0)
			{
				jtf.setText("The price of Books is Rs.100");
			}
			else if(i==1)
			{
				jtf.setText("The price of pen is Rs.10");
			}
			else if(i==2)
			{
				jtf.setText("The price of pencil is Rs.5");
			}
			else if(i==3)
			{
```

```
                    jtf.setText("The price of sharpener is Rs.3");
                }
                else if(i==4)
                {
                    jtf.setText("The price of scale is Rs.5");
                }
                else
                {
                    jtf.setText("Select Item");
                }
        }
        public static void main(String args[])
        {
            Pract2 p1=new Pract2();
            p1.setSize(500,500);
            p1.setVisible(true);
            p1.setTitle("Product");
            p1.setDefaultCloseOperation(EXIT_ON_CLOSE);
        }
}
```

PRAC 2:

```
/*
Write a java program to demonstrate typical Editable Table, describing employee details for a
software company.
*/

import java.awt.*;
import javax.swing.*;
import java.awt.event.*;

/*<applet code="Table1" width=300 height=300>
</applet>*/

public class Table1 extends JApplet
{
	JTable jtb;
	JScrollPane jsp;
	public void init()
	{
		Container c=getContentPane();
		c.setLayout(new BorderLayout());
		String colHeads[]={"Sr.no","Name","Phone No"};
		Object data[][]={{"1","abc","1242642"},
				{"2","def","572656"},
				{"3","ghi","5364535"},
				{"4","jkl","955345"},
				{"5","mno","231212"},
				    {"6","pqr","758278"},
				    {"7","stu","8532034"},
				{"8","vwx","587255"},
				    {"9","yza","899534"},
				{"10","bcd","9259554"}};
		jtb=new JTable(data,colHeads);
		jsp=new JScrollPane(jtb);
		c.add(jsp);
	}
}
```

PRAC 3:

```
/*
Write a java program using Split pane to demonstrate a screen divided in two parts, one part contains the names of Planets and another Displays the image of planet. When user selects the planet name form Left screen, appropriate image of planet displayed in right screen.
*/
/*
Add required images into folder. Check (http://myitweb.weebly.com/jsplitpane.html)
*/

import javax.swing.*;

import java.awt.*;

import javax.swing.event.*;

class JSplitPaneDemo implements ListSelectionListener

{

JFrame frame;

JScrollPane sp1,sp2,sp3;

JSplitPane splitpane1,splitpane2;

JList list;

String planet_name[] = {"Mecury" ,"Venus" ,"Earth" ,"Mars" ,"Jupiter" ,"Saturn"
,"Uranus","Neptune", "Pluto"};

ImageIcon me,v,e,m,j,s,u,n,p;

JLabel label;

JPanel panel;

JTextArea text;

String info[] = {"Radius =2440  \nMoons = 0", "Radius =6052  \nMoons = 0", "Radius =6378
\nMoons = 1", "Radius =3397  \nMoons = 2"

, "Radius =71492  \nMoons = 16", "Radius =60268  \nMoons = 18", "Radius =25559  \nMoons
= 17", "Radius =24766  \nMoons = 8",

"Radius =1137  \nMoons = 1"};

public JSplitPaneDemo()
```

```
{
frame = new JFrame("SplitPaneDemo");
frame.setVisible(true);
frame.setSize(500,500);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
list = new JList(planet_name);
me = new ImageIcon("Mercury.jpg");
v = new ImageIcon("Venus.jpg");
e = new ImageIcon("Earth.jpg");
m = new ImageIcon("Mars.jpg");
j = new ImageIcon("Jupiter.jpg");
s = new ImageIcon("Saturn.jpg");
u = new ImageIcon("Uranus.jpg");
n = new ImageIcon("Neptune.jpg");
p = new ImageIcon("Pluto.jpg");
panel = new JPanel(new FlowLayout());
label=new JLabel();
label.setIcon(me);
panel.add(label);
sp1 = new JScrollPane(list);
text = new JTextArea(info[0],20,10);
sp3 = new JScrollPane(text);
splitpane2 = new JSplitPane(JSplitPane.HORIZONTAL_SPLIT,true,sp1,panel);
splitpane1 = new JSplitPane(JSplitPane.VERTICAL_SPLIT,true,splitpane2,sp3);
frame.add(splitpane1);
```

```
list.addListSelectionListener(this);
}
public void valueChanged(ListSelectionEvent le)
{
int selected;
selected=list.getSelectedIndex();
                    if(selected==0)
                    {
                    label.setIcon(me);
                    text.setText(info[selected]);
                    }
                    else if(selected==1)
                    {
                    label.setIcon(v);
                    text.setText(info[selected]);
                    }
                    else if(selected==2)
                    {
                    label.setIcon(e);
                    text.setText(info[selected]);
                    }
                    else if(selected==3)
                    {
                    label.setIcon(m);
                    text.setText(info[selected]);
```

```
}
else if(selected==4)
{
label.setIcon(j);
text.setText(info[selected]);
}
else if(selected==5)
{
label.setIcon(s);
text.setText(info[selected]);
}
else if(selected==6)
{
label.setIcon(u);
text.setText(info[selected]);
}
else if(selected==7)
{
label.setIcon(n);
text.setText(info[selected]);
}
else if(selected==8)
{
label.setIcon(p);
text.setText(info[selected]);
```

```
                    }
}
public static void main(String args[])
{
JSplitPaneDemo obj = new JSplitPaneDemo();
}
}
```

PRAC 4:

PRAC 4A:

```
/*
Write a java program using Split pane to demonstrate a screen divided in two parts, one part contains the names of Planets and another Displays the image of planet. When user selects the planet name form Left screen, appropriate image of planet displayed in right screen.
*/

import javax.swing.*;

import java.awt.*;

import javax.swing.event.*;

class JSplitPaneDemo implements ListSelectionListener

{

JFrame frame;

JScrollPane sp1,sp2,sp3;

JSplitPane splitpane1,splitpane2;

JList list;

String planet_name[] = {"Mecury" ,"Venus" ,"Earth" ,"Mars" ,"Jupiter" ,"Saturn"
,"Uranus","Neptune", "Pluto"};

ImageIcon me,v,e,m,j,s,u,n,p;

JLabel label;

JPanel panel;

JTextArea text;

String info[] = {"Radius =2440  \nMoons = 0", "Radius =6052  \nMoons = 0", "Radius =6378
\nMoons = 1", "Radius =3397  \nMoons = 2"

, "Radius =71492  \nMoons = 16", "Radius =60268  \nMoons = 18", "Radius =25559  \nMoons
= 17", "Radius =24766  \nMoons = 8",

"Radius =1137  \nMoons = 1"};

public JSplitPaneDemo()

{
```

```
frame = new JFrame("SplitPaneDemo");
frame.setVisible(true);
frame.setSize(500,500);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
list = new JList(planet_name);
me = new ImageIcon("Mercury.jpg");
v = new ImageIcon("Venus.jpg");
e = new ImageIcon("Earth.jpg");
m = new ImageIcon("Mars.jpg");
j = new ImageIcon("Jupiter.jpg");
s = new ImageIcon("Saturn.jpg");
u = new ImageIcon("Uranus.jpg");
n = new ImageIcon("Neptune.jpg");
p = new ImageIcon("Pluto.jpg");
panel = new JPanel(new FlowLayout());
label=new JLabel();
label.setIcon(me);
panel.add(label);
sp1 = new JScrollPane(list);
text = new JTextArea(info[0],20,10);
sp3 = new JScrollPane(text);
splitpane2 = new JSplitPane(JSplitPane.HORIZONTAL_SPLIT,true,sp1,panel);
splitpane1 = new JSplitPane(JSplitPane.VERTICAL_SPLIT,true,splitpane2,sp3);
frame.add(splitpane1);
list.addListSelectionListener(this);
```

```
}
public void valueChanged(ListSelectionEvent le)
{
int selected;
selected=list.getSelectedIndex();
                        if(selected==0)
                        {
                        label.setIcon(me);
                        text.setText(info[selected]);
                        }
                        else if(selected==1)
                        {
                        label.setIcon(v);
                        text.setText(info[selected]);
                        }
                        else if(selected==2)
                        {
                        label.setIcon(e);
                        text.setText(info[selected]);
                        }
                        else if(selected==3)
                        {
                        label.setIcon(m);
                        text.setText(info[selected]);
                        }
```

```
else if(selected==4)
{
label.setIcon(j);
text.setText(info[selected]);
}
else if(selected==5)
{
label.setIcon(s);
text.setText(info[selected]);
}
else if(selected==6)
{
label.setIcon(u);
text.setText(info[selected]);
}
else if(selected==7)
{
label.setIcon(n);
text.setText(info[selected]);
}
else if(selected==8)
{
label.setIcon(p);
text.setText(info[selected]);
}
```

```
}
public static void main(String args[])
{
JSplitPaneDemo obj = new JSplitPaneDemo();
}
}
```

PRAC 4B:

/*
Develop Simple Servlet Question Answer Application to demonstrate use of
HttpServletRequest and HttpServletResponse interfaces.
*/

HTML CODE:

```
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <form method="post" action="p7">
      <h1>My paper</h1>
        <label>Q. 1) Which is a valid keyword in java?</label><br>
         <input type="radio" name="r1" value ="int"/>interface
         <input type="radio" name="r1" value ="F"/>Float
         <input type="radio" name="r1" value ="s"/>string
         <input type="radio" name="r1" value ="all"/>All of the above<br><br>
         <label>Q. 2) What is sent to the user via HTTP, invoked using the HTTP protocol on
the user's computer, and run on the user's computer as an application?</label><br>
         <input type="radio" name="r2" value="app"/>A Java application
         <input type="radio" name="r2" value="applet"/>A Java applet
         <input type="radio" name="r2" value="servlet"/>A Java servlet
         <input type="radio" name="r2" value="none"/>None of the above <br><br>

               <label>Q. 3) JDBC stands for:</label><br>
         <input type="radio" name="r3" value="jdbc"/>Java Database Connectivity
         <input type="radio" name="r3" value="jdbc1"/>Java Database Components
         <input type="radio" name="r3" value="jdbc2"/>Java Database Control
         <input type="radio" name="r3" value="none"/>None of the above <br><br>

          <label>Q. 4) What is bytecode?</label><br>
         <input type="radio" name="r4" value="msc"/>Machine-specific code
         <input type="radio" name="r4" value="jcn"/>Java code
         <input type="radio" name="r4" value="mic"/>Machine-independent code
         <input type="radio" name="r4" value="none"/>None of the above <br><br>
        <input type="submit" value="Display Result"/>
         <input type="reset" value="Reset Values"/>
      </form>
   </body>
</html>
```

SERVLET PROGRAM CODE:

```
import java.io.IOException;
import java.io.PrintWriter;
```

```
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        try {
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet p7</title>");
            out.println("</head>");
            out.println("<body>");

if(request.getParameter("r1").equals("int")&&request.getParameter("r2").equals("app")&&requ
est.getParameter("r3").equals("jdbc")&&request.getParameter("r4").equals("mic"))
                out.println("You are Pass");
            else
                 out.println("Better luck Next time");

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

        } finally {
            out.close();
        }
    }
```

PRAC 5:

/* Servlet Calulator */

HTML Code:

```
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <h1>Calculator Aplication</h1>
      <form method="Post" action="Calculator">
         <label for="no1">Enter number 1</label>
         <input type="text" id="no1"/><br><br>
         <label for="no2">Enter number 2</label>
         <input type="text" id="no2" name="no2"/><br><br>
         <select name="opr">
            <option> Addition </option>
            <option> Subtraction </option>
            <option> Multiplication </option>
            <option> Division </option>
         </select><br><br>
         <input type="submit" value="Display Answer"/>
         <input type="reset" value="Reset Values"/>
      </form>
   </body>
</html>
```

Sevlet Code:

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

public class Calculator extends HttpServlet {
   protected void processRequest(HttpServletRequest request, HttpServletResponse response)
   throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      PrintWriter out = response.getWriter();
      try {
         out.println("<html>");
         out.println("<head>");
```

```
        out.println("<title>Servlet Calculator</title>");
        out.println("</head>");
        out.println("<body>");
        float result=0;
        float a=Float.parseFloat(request.getParameter("no1"));
        float b=Float.parseFloat(request.getParameter("no2"));
        String opr=request.getParameter("opr");
        if (opr.equals("Addition"))
            result=a+b;
        else if (opr.equals("Subtraction"))
            result=a-b;
        else if (opr.equals("Multiplication"))
            result=a*b;
        else if (opr.equals("Division"))
            result=a/b;
        out.println("<h1>The result of " +opr+" of "+a+" and "+b+" = "+result+"</h1>");
        //out.println("<h1>Servlet Calculator at " + request.getContextPath () + "</h1>");
        out.println("</body>");
        out.println("</html>");
    } finally {
        out.close();
    }
}
```

PRAC 6:

PRAC 6A:

/*
Write a java program connects to database using JDBC and perform all the operations like creating a table,inserting records in the table,modifying records in the table and deleting records from the table,viewing metadata info.
*/

Code Snippet:-

```
import java.io.*;
import java.sql.*;
public class JDBCProgram1
{
	static int opt,age,phn;
	static String name,c;
	static BufferedReader br;
	static Connection con;
	static PreparedStatement pstmt1,pstmt2,pstmt3,pstmt4;
	static ResultSet rs1,rs2;

	public static void main(String args[])
	{
		try
		{
			br=new BufferedReader(new InputStreamReader(System.in));
			Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
			con=DriverManager.getConnection("jdbc:odbc:mmydsn1");
		}
		catch(Exception e)
		{
			e.printStackTrace();
		}
		do
		{
			System.out.println("Enter your choice");
			System.out.println("1.Create Table");
			System.out.println("2.Insert a Record");
			System.out.println("3.Update a Record");
			System.out.println("4.Delete a Record");
			System.out.println("5.View all Records");
			System.out.println("6.View a specific Record");
			System.out.println("7.Delete a Table");
			System.out.println("8.View ResultSet metadata");
			System.out.println("9.View Database metadata");
			System.out.println("10.Exit");

			try
```

```
		{
			opt=Integer.parseInt(br.readLine());
		}
		catch(Exception e)
		{
			e.printStackTrace();
		}
		switch(opt)
		{
			case 1:
				Create();
				break;
			case 2:
				CallName();
				Call();
				Insert();
				break;
			case 3:
				CallName();
				Call();
				Update();
				break;
			case 4:
				CallName();
				Delete();
				break;
			case 5:
				viewAll();
				break;
			case 6:
				CallName();
				viewOne();
				break;
			case 7:
				//DeleteTable();
				break;
			case 8:
				RSMeta();
				break;
			case 9:
				DBMeta();
				break;
			case 10:
				System.exit(0);
				break;
			default:
				System.out.println("Wrong");
		}
	}while(opt!=10);
}
```

```
	public static void CallName()
	{
		try
		{
			System.out.println("Enter the name of student");
			name=br.readLine();
		}
		catch(Exception e)
		{
			e.printStackTrace();
		}
	}

	public static void Call()
	{
		try
		{
			System.out.println("\nEnter the age of student:\t");
			age=Integer.parseInt(br.readLine());
			System.out.println("\nEnter the phone no of student");
			phn=Integer.parseInt(br.readLine());
		}
		catch(Exception e)
		{
			e.printStackTrace();
		}
	}
	public static void Create()
	{
		try
		{
			Statement stmt=con.createStatement();
			int i=stmt.executeUpdate("create table
Student_details(Stud_name char(30),age integer,phn_num integer)");
			if(i==-1)
			{
				System.out.println("Table Created");
			}
			else
			{
				System.out.println("Table cant be created");
			}
		}
		catch(Exception e)
		{
			e.printStackTrace();
		}
	}
	public static void Insert()
	{
```

```
                try
                {
                        pstmt1=con.prepareStatement("insert into Student_details
values(?,?,?)");
                        pstmt1.setString(1,name);
                        pstmt1.setInt(2,age);
                        pstmt1.setInt(3,phn);
                        int count1=pstmt1.executeUpdate();
                        if(count1==1)
                        {
                                System.out.println("\nData inserted successfully");
                        }
                        else
                        {
                                System.out.println("Data cant be inserted");
                        }
                }
                catch(Exception e)
                {
                        e.printStackTrace();
                }
        }
        public static void Update()
        {
                try
                {
                        pstmt2=con.prepareStatement("Update Student_details set
age=?,phn_num=? where Stud_name=?");
                        pstmt2.setInt(1,age);
                        pstmt2.setInt(2,phn);
                        pstmt2.setString(3,name);
                        int count2=pstmt2.executeUpdate();
                        if(count2==1)
                        {
                                System.out.println("\nData Modified Successfully");
                        }
                        else
                        {
                                System.out.println("Data cant be modified");
                        }
                }
                catch(Exception e)
                {
                        e.printStackTrace();
                }
        }
        public static void Delete()
        {
                try
                {
```

```
                        pstmt3=con.prepareStatement("Delete from Student_details
where stud_name=?");
                        pstmt3.setString(1,name);
                        int count2=pstmt3.executeUpdate();
                        if(count2==1)
                        {
                                System.out.println("\n Data deleted Successfully");
                        }
                        else
                        {
                                System.out.println("\n Data cant be deleted");
                        }
                }
                catch(Exception e)
                {
                        e.printStackTrace();
                }
        }
        public static void viewOne()
        {
                try
                {
                        pstmt4=con.prepareStatement("Select * from Student_details
where stud_name=?");
                        pstmt4.setString(1,name);
                        rs2=pstmt4.executeQuery();
                        while(rs2.next())
                        {
                                System.out.println("Age is:"+rs2.getInt("age"));
                                System.out.println("Phone number
is:"+rs2.getInt("phn_num"));
                        }
                }
                catch(Exception e)
                {
                        e.printStackTrace();
                }
        }
        public static void viewAll()
        {
                try
                {
                        Statement st=con.createStatement();
                        rs1=st.executeQuery("Select * from Student_details");
                        while(rs1.next())
                        {
                                System.out.println("Name
is:"+rs1.getString("stud_name"));
                                System.out.println("Age is:"+rs1.getInt("Age"));
                                System.out.println("Phn no is:"+ rs1.getInt("phn_num"));
```

```
                }
            }
            catch(Exception e)
            {
                e.printStackTrace();
            }
        }
        public static void DeleteTable()
        {
            try
            {
                Statement st=con.createStatement();
                int i=st.executeUpdate("Drop table Student_details");
                if(i==1)
                {
                    System.out.println("Table deleted Successfully");
                }
                else
                {
                    System.out.println("Table cant be deleted");
                }
            }
            catch(Exception e)
            {
                e.printStackTrace();
            }
        }
        public static void DBMeta()
        {
            try
            {
                DatabaseMetaData dbmd=con.getMetaData();
                System.out.println("The name of the database product is=
"+dbmd.getDatabaseProductName());
                System.out.println("The version of the database is=
"+dbmd.getDatabaseProductVersion());
                System.out.println("The name of the driver is=
"+dbmd.getDriverName());
                System.out.println("The version of the driver is=
"+dbmd.getDriverVersion());
                System.out.println("The jdbc url is= "+dbmd.getURL());
                System.out.println("The username of database is=
"+dbmd.getUserName());
            }
            catch(Exception e)
            {
                e.printStackTrace();
            }
        }
        public static void RSMeta()
```

```
		{
			try
			{
				Statement st=con.createStatement();
				ResultSet rs=st.executeQuery("Select * from Student_details");
				ResultSetMetaData meta=rs.getMetaData();
				int no=meta.getColumnCount();
				System.out.println("no. of columns="+no);
				for(int i=1;i<=no;i++)
				{
					System.out.println("Column name=
"+meta.getColumnName(i)+" of data type "+meta.getColumnTypeName(i)+" from table
"+meta.getTableName(i));
				}
			}
			catch(Exception e)
			{
				e.printStackTrace();
			}

		}
	}
```

PRAC 6B:

/*
Develop a jsp application to accept registration details from user and store into the database table.
*/

JSP code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
  "http://www.w3.org/TR/html4/loose.dtd">

<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <h1>Hello World!</h1>
      <form  action="jspcheck.jsp">
         username: <input type="text" name="t1"><br>
         password: <input type="text" name="t2"><br>
         email:        <input type="text"
name="t3"><br>
         <input type="submit" value="login">
         <input type="reset" value="reset">
      </form>
   </body>
</html>
```

1) JSP code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
  "http://www.w3.org/TR/html4/loose.dtd">

<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <%@page import="java.sql.*" %>
      <%
      try
            {
         Class.forName("com.mysql.jdbc.Driver").newInstance();
```

```
        Connection
con=DriverManager.getConnection("jdbc:mysql://localhost/logindb","viva","viva");
        PreparedStatement ps=con.prepareStatement("insert into login values(?,?,?)");
        ps.setString(1,request.getParameter("t1"));
        ps.setString(2,request.getParameter("t2"));
        ps.setString(3,request.getParameter("t3"));
        ps.executeUpdate();
            }
      catch(Exception e)
            {
        out.println(e.getMessage());
            }
      %>
      Record inserted successfully!!!!!!!!!!
   </body>
</html>
```

PRAC 7:

PRAC 7A:

```
/*
 Develop a JSP Application to Authenticate User Login as per the registration details. If login success the forward user to Index Page otherwise show login failure Message.
*/

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
   "http://www.w3.org/TR/html4/loose.dtd">

<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <h1>Hello World!</h1>
        <form  action="jspcheck.jsp">
            username: <input type="text" name="t1"><br>
            password: <input type="text" name="t2"><br>
            email:        <input type="text"
name="t3"><br>
            <input type="submit" value="login">
            <input type="reset" value="reset">
        </form>
    </body>
</html>
```

1) JSP code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
   "http://www.w3.org/TR/html4/loose.dtd">

<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <%@page import="java.sql.*" %>
        <%
        try
                {
            Class.forName("com.mysql.jdbc.Driver").newInstance();
```

```
        Connection
con=DriverManager.getConnection("jdbc:mysql://localhost/logindb","viva","viva");
        PreparedStatement ps=con.prepareStatement("insert into login values(?,?,?)");
        ps.setString(1,request.getParameter("t1"));
        ps.setString(2,request.getParameter("t2"));
        ps.setString(3,request.getParameter("t3"));
        ps.executeUpdate();
            }
      catch(Exception e)
            {
        out.println(e.getMessage());
            }
      %>
      Record inserted successfully!!!!!!!!!!
   </body>
</html>
```

PRAC 7B:

/*
Develop a JSP application to authenticate user login as per registration details. If login succeeds forward user to index page otherwise show login failure message.
*/

Index.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <h1>User Login</h1>
      <form action="Valid.jsp">
         Enter User Name : <input type="textbox" name="txtname"><br><br>
         Enter Password : <input type="password" name="txtpass"><br><br>

         <input type="submit" value="Login">
         <input type="reset" name="Reset">

      </form>
   </body>
</html>
```

Valid.jsp

```
<%@ page import = "java.sql.*"%>
       <%! String pass=""; %>
     <%
         try
         {
            Class.forName("com.mysql.jdbc.Driver").newInstance();
                  Connection con =
DriverManager.getConnection("jdbc:mysql://localhost/LoginDB","viva","viva");
                  Statement stmt=con.createStatement();
            String a=request.getParameter("txtname");
            String b=request.getParameter("txtpass");
           // System. out.println(a);
            // System. out.println(b);
           ResultSet rs=stmt.executeQuery("select password from UserLogin where name='"+ a
+"'");

           while(rs.next())
              {
               pass = rs.getString(1);
             }
```

```
            if (b.equals(pass))
                {%>

                <jsp:forward page="ValidUser.jsp"/>

               <% }
            else
                {
                 System.out.println("<h1> Invalid user</h1>") ;
                }

        }
        catch(Exception e)
        {
                  out.println(e.getMessage());
        }
%>

   </body>
</html>
```

Validuser.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <h1>Valid User</h1>
   </body>
</html>
```