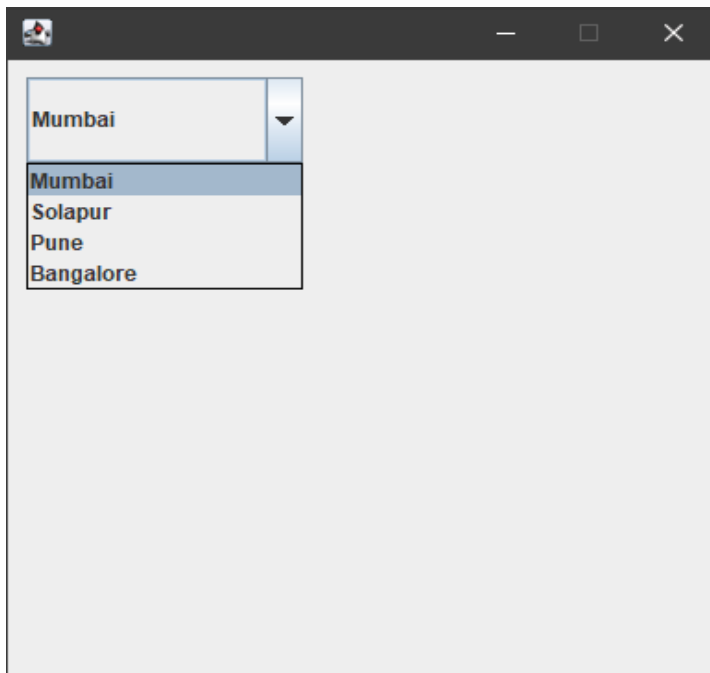


Practical No : 6

```
import javax.swing.*;

public class JComboDemo {
    JComboDemo() {
        JFrame F = new JFrame();
        String cities[] = {"Mumbai", "Solapur", "Pune", "Bangalore"};
        JComboBox cb = new JComboBox(cities);
        cb.setBounds(10, 10, 150, 50);
        F.add(cb);
        F.setLayout(null);
        F.setSize(400, 400);
        F.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        F.setLocationRelativeTo(null);
        F.setResizable(false);
        F.setVisible(true);
    }

    public static void main(String[] args) {
        new JComboDemo();
    }
}
```



Practical No : 5

Write a program which creates a Menu of different colors and disables menu items for Black color

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

public class MenuDemo {
    MenuDemo() {
        JFrame F = new JFrame();
        F.setSize(400, 400);

        MenuBar mb = new MenuBar();
        F.setMenuBar(mb);

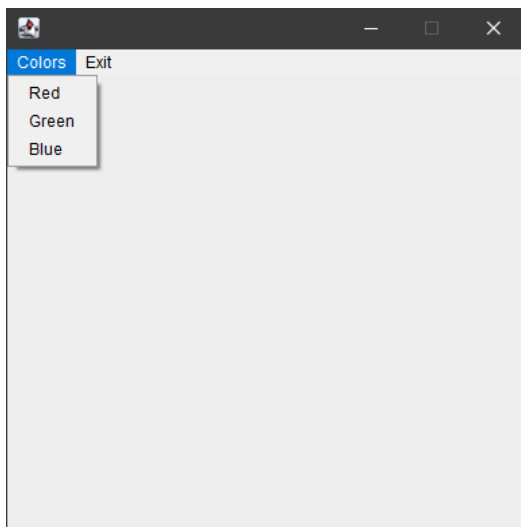
        Menu Colors = new Menu("Colors");
        Menu Exit = new Menu("Exit");

        mb.add(Colors);
        mb.add(Exit);

        Colors.add(new MenuItem("Red"));
        Colors.add(new MenuItem("Green"));
        Colors.add(new MenuItem("Blue"));

        Exit.add(new MenuItem("Exit"));

        F.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        F.setLocationRelativeTo(null);
        F.setResizable(false);
        F.setVisible(true);
    }
    public static void main(String[] args) {
        new MenuDemo();
    }
}
```



Practical No : 6

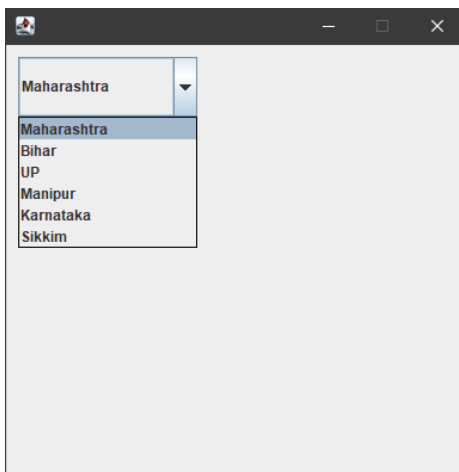
Write a program to develop a frame to select the different state of india using JComboBox

```
import javax.swing.*;

public class JComboDemo2 {
    JComboDemo2() {
        JFrame F = new JFrame();

        String states[] = {
            "Maharashtra",
            "Bihar ",
            "UP",
            "Manipur",
            "Karnataka",
            "Sikkim"
        };

        JComboBox cb = new JComboBox(states);
        cb.setBounds(10, 10, 150, 50);
        F.add(cb);
        F.setLayout(null);
        F.setSize(400, 400);
        F.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        F.setLocationRelativeTo(null);
        F.setResizable(false);
        F.setVisible(true);
    }
    public static void main(String[] args) {
        new JComboDemo2();
    }
}
```



Practical No : 6

Develop a program to demonstrate the use of scrollPane in swing

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

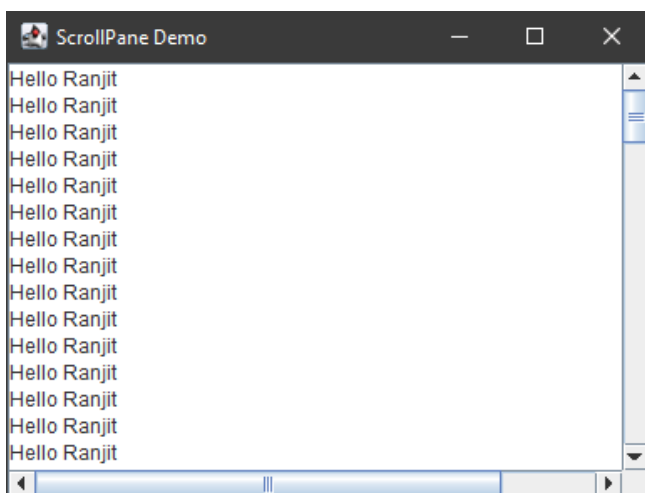
public class JScrollPaneDemo {
    private static void ShowGUI() {
        JFrame frame = new JFrame("ScrollPane Demo");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 300);
        frame.setLocationRelativeTo(null);

        JTextArea textArea = new JTextArea(20, 40);
        for (int i = 0; i < 100; i++) {
            textArea.append("Hello Ranjit"+"\n");
        }

        JScrollPane scrollPane = new JScrollPane(textArea);
        scrollPane.setVerticalScrollBarPolicy(
            JScrollPane.VERTICAL_SCROLLBAR_ALWAYS);

        frame.getContentPane().add(scrollPane);
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        ShowGUI();
    }
}
```



Practical No : 7

Develop a program to demonstrate the use of tree components in swing.

```
import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;

public class JTreeDemo {
    JFrame f;
    DefaultMutableTreeNode style,color,font,red,black,blue,green,yellow;
    JTreeDemo()
    {
        f=new JFrame();

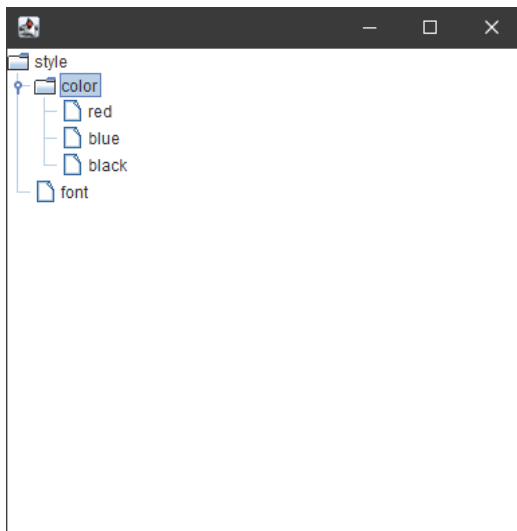
        style = new DefaultMutableTreeNode("style");

        color = new DefaultMutableTreeNode("color");

        color.add(new DefaultMutableTreeNode("red"));
        color.add(new DefaultMutableTreeNode("Blue"));
        color.add(new DefaultMutableTreeNode("Black"));

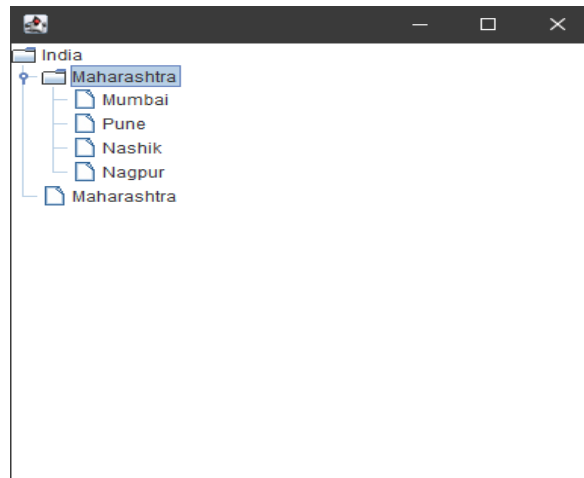
        style.add(color);
        style.add(new DefaultMutableTreeNode("font"));

        JTree jt=new JTree(style);
        f.add(jt);
        f.setLocationRelativeTo(null);
        f.setSize(400,400);
        f.setVisible(true);
    }
    public static void main(String[] args) {
        new JTreeDemo();
    }
}
```



Practical No : 7

Write program for generate following output



```
import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;
public class JTreeDemo2 {
    JFrame f;
    DefaultMutableTreeNode india,Mh,Gujarat,Mumbai,Pune,Nashik,Nagpur;
    JTreeDemo2()
    {
        f=new JFrame();

        india =new DefaultMutableTreeNode("India");

        Mh = new DefaultMutableTreeNode("Maharashtra");
        Gujarat = new DefaultMutableTreeNode("Maharashtra");

        String states [] = {"Mumbai", "Pune", "Nashik", "Nagpur"};

        for (String state : states) {
            Mh.add(new DefaultMutableTreeNode(state));
        }

        india.add(Mh);
        india.add(Gujarat);

        JTree jt=new JTree(india);
        f.add(jt);
        f.setLocationRelativeTo(null);
        f.setSize(400,400);
        f.setVisible(true);
    }
    public static void main(String[] args) {
        new JTreeDemo2();
    }
}
```

Practical No : 7

Exercise : Write a Jtree program to show root directory and its subFolders of your system.

```
import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;

public class JTreeDemo3 {
    JFrame f;
    DefaultMutableTreeNode ThisPc, CD, D;
    JTreeDemo3()
    {
        f=new JFrame();

        ThisPc = new DefaultMutableTreeNode("This Pc");

        CD = new DefaultMutableTreeNode("C Drive");

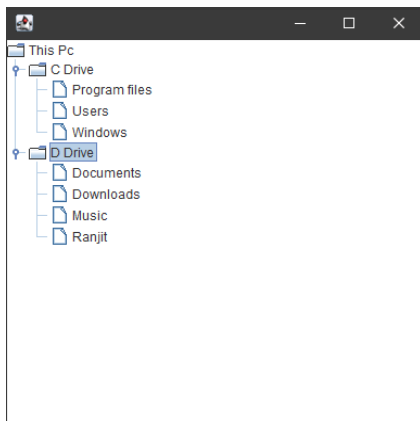
        CD.add(new DefaultMutableTreeNode("Program files"));
        CD.add(new DefaultMutableTreeNode("Users"));
        CD.add(new DefaultMutableTreeNode("Windows"));

        D = new DefaultMutableTreeNode("D Drive");

        D.add(new DefaultMutableTreeNode("Documents"));
        D.add(new DefaultMutableTreeNode("Downloads"));
        D.add(new DefaultMutableTreeNode("Music"));
        D.add(new DefaultMutableTreeNode("Ranjit"));

        ThisPc.add(CD);
        ThisPc.add(D);

        JTree jt=new JTree(ThisPc);
        f.add(jt);
        f.setLocationRelativeTo(null);
        f.setSize(400,400);
        f.setVisible(true);
    }
    public static void main(String[] args) {
        new JTreeDemo3();
    }
}
```



Practical No : 8      Develop a program to Demonstrate use of JTable

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

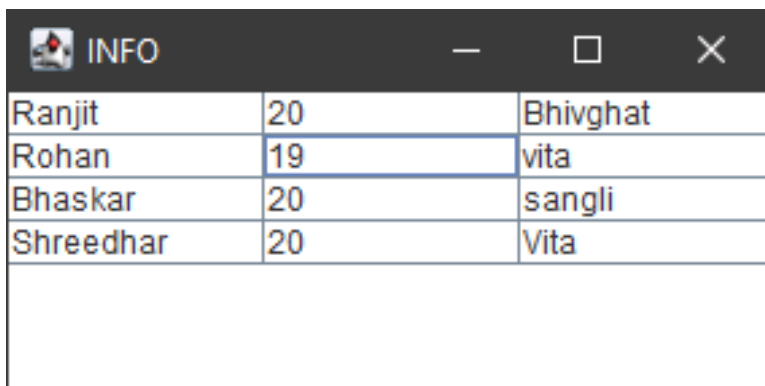
public class JTableDemo2 {
    JTableDemo2() {
        JFrame F = new JFrame();
        F.setTitle("INFO");
        F.setLayout(new BorderLayout());

        String[] ColumnHeads = {"Names", "Age", "City"};

        String[][] Data = {
            {"Ranjit", "20", "Bhivghat"},
            {"Rohan", "19", "vita"},
            {"Bhaskar", "20", "sangli"},
            {"Shreedhar", "20", "Vita"}
        };

        JTable T = new JTable(Data, ColumnHeads);
        T.setCellSelectionEnabled(false);
        F.add(new JScrollPane(T));
        F.setLocationRelativeTo(null);
        F.add(T);
        F.setSize(300, 150);
        F.setVisible(true);
    }

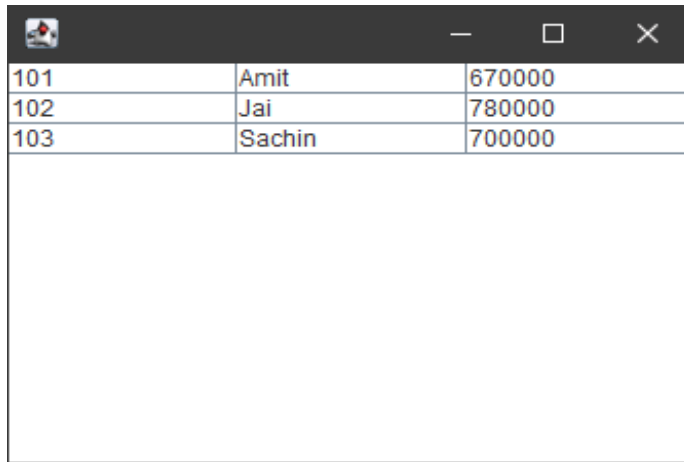
    public static void main(String[] args) {
        new JTableDemo2();
    }
}
```



Ranjit	20	Bhivghat
Rohan	19	vita
Bhaskar	20	sangli
Shreedhar	20	Vita

Practical No : 8

Write a program code to generate following output.



101	Amit	670000
102	Jai	780000
103	Sachin	700000

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

public class JTableDemo3 {
    JTableDemo3() {
        JFrame F = new JFrame();
        F.setLayout(new BorderLayout());

        String[] ColumnHeads = {"ID", "NAME", "SALARY"};

        String[][] Data = {
            {"101", "Amit", "670000"},
            {"102", "Jai", "780000"},
            {"103", "Sachin", "700000"},
        };

        JTable T = new JTable(Data, ColumnHeads);
        T.setCellSelectionEnabled(false);
        F.add(new JScrollPane(T));
        F.setLocationRelativeTo(null);
        F.add(T);
        F.setSize(350, 250);
        F.setVisible(true);
    }

    public static void main(String[] args) {
        new JTableDemo3();
    }
}
```

Practical No : 8	Write a program to create a table of name of the student,Percentage and grade of 10 students using JTable.
------------------	--

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

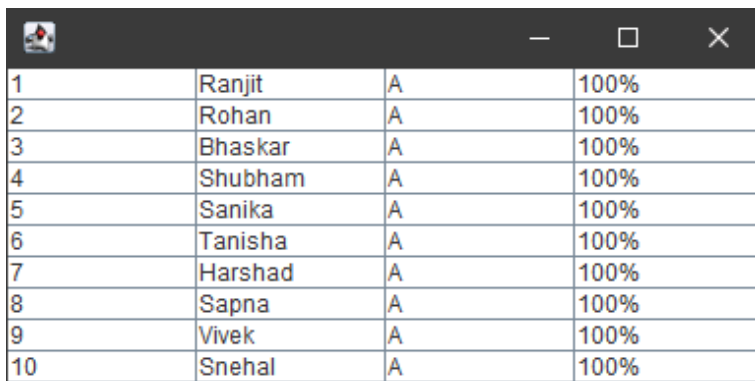
public class JTableDemo {
    JTableDemo() {
        JFrame F = new JFrame();
        F.setLayout(new BorderLayout());

        String[] ColumnHeads = {"Id", "Student Name", "Grade ", "Percentage"};

        String[][] Data = {
            {"1", "Ranjit", "A", "100%"},
            {"2", "Rohan", "A", "100%"},
            {"3", "Bhaskar", "A", "100%"},
            {"4", "Shubham", "A", "100%"},
            {"5", "Sanika", "A", "100%"},
            {"6", "Tanisha", "A", "100%"},
            {"7", "Harshad", "A", "100%"},
            {"8", "Sapna", "A", "100%"},
            {"9", "Vivek", "A", "100%"},
            {"10", "Snehal", "A", "100%"}
        };

        JTable T = new JTable(Data, ColumnHeads);
        T.setCellSelectionEnabled(false);
        F.add(new JScrollPane(T));
        F.setLocationRelativeTo(null);
        F.add(T);
        F.setSize(400, 400);
        F.setVisible(true);
    }

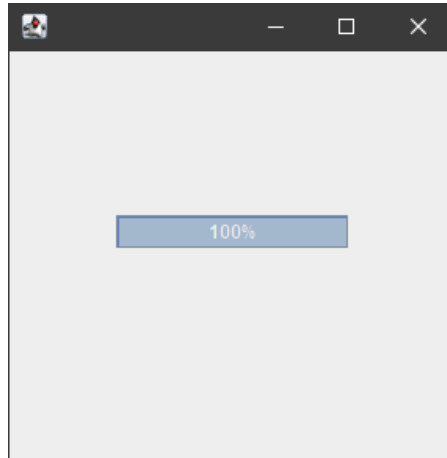
    public static void main(String[] args) {
        new JTableDemo();
    }
}
```



Id	Student Name	Grade	Percentage
1	Ranjit	A	100%
2	Rohan	A	100%
3	Bhaskar	A	100%
4	Shubham	A	100%
5	Sanika	A	100%
6	Tanisha	A	100%
7	Harshad	A	100%
8	Sapna	A	100%
9	Vivek	A	100%
10	Snehal	A	100%

Practical No : 9

Write a program code to generate the following output.



```
import javax.swing.*;
import javax.swing.border.EmptyBorder;
import java.awt.*;

public class JProgressBarDemo {
    JProgressBarDemo() {

        JFrame frame = new JFrame();
        frame.setLocationRelativeTo(null);
        frame.setSize(300,300);

        JPanel panel = new JPanel();
        panel.setBorder(new EmptyBorder(100, 1, 1, 1));

        JProgressBar progressBar = new JProgressBar(0, 100);
        progressBar.setStringPainted(true);
        progressBar.setValue(100);
        progressBar.setSize(100, 60);
        progressBar.setOrientation(SwingConstants.HORIZONTAL);

        panel.add(progressBar);
        frame.add(panel);
        frame.setVisible(true);
    }
    public static void main(String[] args) {
        new JProgressBarDemo();
    }
}
```

Practical No : 9

Develop a program to demonstrate the use of  
JProgressBar

```
import javax.swing.*;
import javax.swing.border.EmptyBorder;

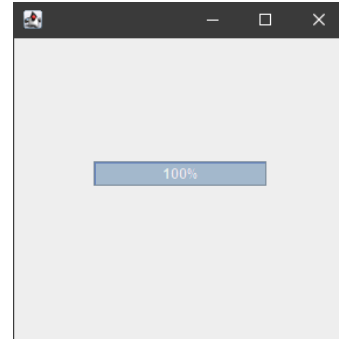
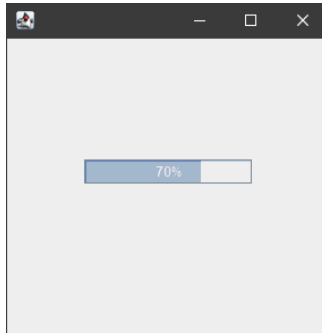
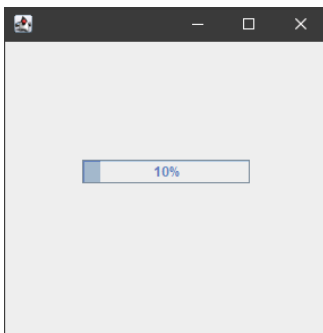
public class JProgressBarDemo2 {
    static int state = 0;
    static JProgressBar progressBar = new JProgressBar(0, 100);

    JProgressBarDemo2() {
        JFrame frame = new JFrame();
        frame.setLocationRelativeTo(null);
        frame.setSize(300, 300);

        JPanel panel = new JPanel();
        panel.setBorder(new EmptyBorder(100, 1, 1, 1));
        progressBar.setStringPainted(true);
        progressBar.setSize(100, 60);
        progressBar.setOrientation(SwingConstants.HORIZONTAL);
        panel.add(progressBar);
        frame.add(panel);
        frame.setVisible(true);
    }

    public static void setState() {
        while (true) {
            int i = 0;
            while (i <= 100) {
                progressBar.setValue(state);
                System.out.println(i);
                i = i + 10;
                state = i;
                try {
                    Thread.sleep(1000);
                } catch (InterruptedException e) {
                    throw new RuntimeException(e);
                }
            }
        }
    }

    public static void main(String[] args) {
        new JProgressBarDemo2();
        setState();
    }
}
```



Practical No : 9	Write a program using JProgressBar to show progress of Progress bar when user clicks on button.
------------------	---

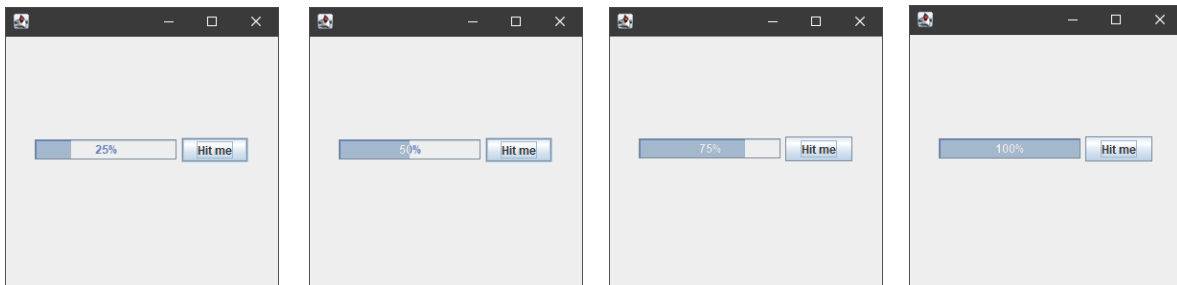
```
import javax.swing.*;
import javax.swing.border.EmptyBorder;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class JProgressBarDemo3 {
    JProgressBarDemo3(){
        JFrame frame = new JFrame();
        frame.setLocationRelativeTo(null);
        frame.setSize(300,300);

        JPanel panel = new JPanel();
        panel.setBorder(new EmptyBorder(100, 1, 1, 1));

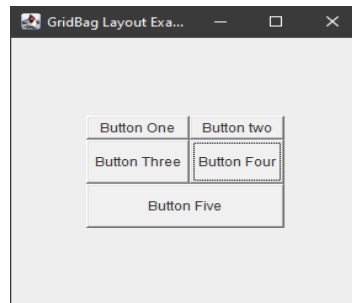
        JProgressBar progressBar = new JProgressBar(0, 100);
        progressBar.setStringPainted(true);
        progressBar.setSize(100, 60);
        progressBar.setOrientation(SwingConstants.HORIZONTAL);
        JButton hitMe = new JButton("Hit me");

        panel.add(progressBar);
        panel.add(hitMe);
        frame.add(panel);
        frame.setVisible(true);
        hitMe.addActionListener(new ActionListener() {
            int state = 0;
            @Override
            public void actionPerformed(ActionEvent e) {
                if (state == 100){
                    state = 0;
                }
                else {
                    state = state + 25;
                    progressBar.setValue(state);
                }
            }
        });
    }
    public static void main(String[] args) {
        new JProgressBarDemo3();
    }
}
```



Practical No : 4

Write a program code to generate the following output.



```
import java.awt.Button;
import java.awt.GridBagConstraints;
import java.awt.GridBagLayout;

import javax.swing.*;

public class GridBagLayoutDemo extends JFrame{
    public static void main(String[] args) {
        GridBagLayoutDemo a = new GridBagLayoutDemo();
    }
    public GridBagLayoutDemo() {
        GridBagLayout grid = new GridBagLayout();
        GridBagConstraints gbc = new GridBagConstraints();
        setLayout(grid);
        setTitle("GridBag Layout Example");
        GridBagLayout layout = new GridBagLayout();
        this.setLayout(layout);
        gbc.fill = GridBagConstraints.HORIZONTAL;
        gbc.gridx = 0;
        gbc.gridy = 0;
        this.add(new Button("Button One"), gbc);
        gbc.gridx = 1;
        gbc.gridy = 0;
        this.add(new Button("Button two"), gbc);
        gbc.fill = GridBagConstraints.HORIZONTAL;
        gbc.ipady = 20;
        gbc.gridx = 0;
        gbc.gridy = 1;
        this.add(new Button("Button Three"), gbc);
        gbc.gridx = 1;
        gbc.gridy = 1;
        this.add(new Button("Button Four"), gbc);
        gbc.gridx = 0;
        gbc.gridy = 2;
        gbc.fill = GridBagConstraints.HORIZONTAL;
        gbc.gridwidth = 2;
        this.add(new Button("Button Five"), gbc);
        setSize(300, 300);
        setPreferredSize(getSize());
        setVisible(true);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
    }
}
```

Practical No : 10

Write a Program to generate KeyEvent when a key is pressed and display "key pressed message"

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;

public class KeyEventDemo2 implements KeyListener {
    JLabel label;

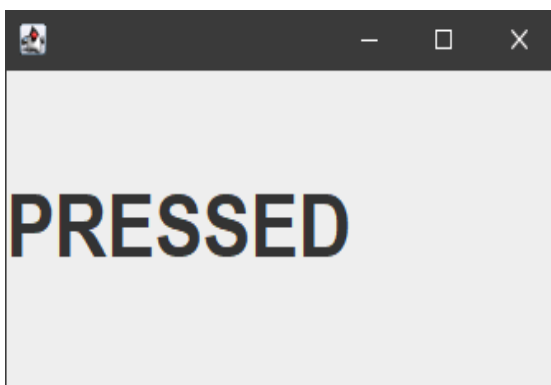
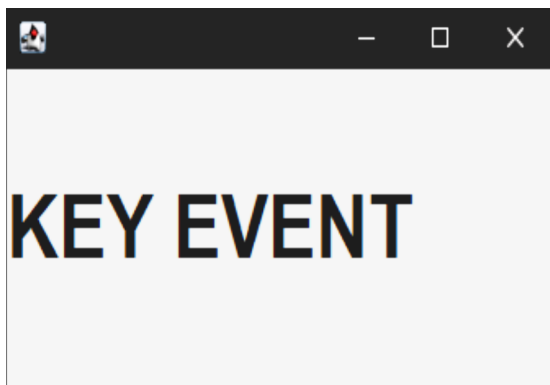
    KeyEventDemo2() {
        JFrame frame = new JFrame();
        frame.setSize(350, 200);
        label = new JLabel("KEY EVENT");
        label.setFont(new Font("Arial", Font.BOLD, 44));
        frame.add(label);
        frame.addKeyListener(this);
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new KeyEventDemo2();
    }

    @Override
    public void keyTyped(KeyEvent e) {
        label.setText("TYPED");
    }

    @Override
    public void keyPressed(KeyEvent e) {
        label.setText("PRESSED");
    }

    @Override
    public void keyReleased(KeyEvent e) {
        label.setText("RELEASED");
    }
}
```



Practical No : 10

Develop a program to accept two numbers and display the product of two numbers, when the user pressed the "Multiply" button.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class KeyEventDemo1 {
    JTextField t1,t2;
    JLabel l1,l2,result;
    KeyEventDemo1(){
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(270,300);
        l1 = new JLabel("Enter first no");
        l2 = new JLabel("Enter second no");
        result = new JLabel("OUTPUT");
        t1 = new JTextField();
        t2 = new JTextField();
        JButton button = new JButton("Multiply");
        frame.add(l1);
        frame.add(t1);
        frame.add(l2);
        frame.add(t2);
        frame.add(result);
        frame.add(button);
        button.addActionListener(new ActionListener() {

            @Override
            public void actionPerformed(ActionEvent e) {
                int no1 = Integer.parseInt(t1.getText());
                int no2 = Integer.parseInt(t2.getText());
                int product = Integer.parseInt(String.valueOf(no2*no1));
                result.setText(String.valueOf( no1+"*"+no2+"="+product));
            }
        });
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new KeyEventDemo1();
    }
}
```



Practical No : 12

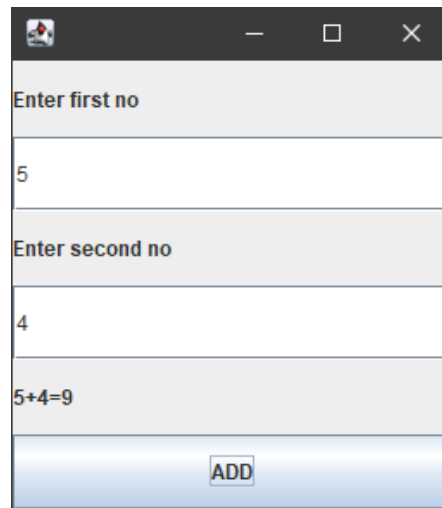
Write a program using J;textfield to perform addition of two numbers.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class addition {
    JTextField t1,t2;
    JLabel l1,l2,result;
    addition() {
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(270,300);
        l1 = new JLabel("Enter first no");
        l2 = new JLabel("Enter second no");
        result = new JLabel("OUTPUT");
        t1 = new JTextField();
        t2 = new JTextField();
        JButton button = new JButton("ADD");
        frame.add(l1);
        frame.add(t1);
        frame.add(l2);
        frame.add(t2);
        frame.add(result);
        frame.add(button);
        button.addActionListener(new ActionListener() {

            @Override
            public void actionPerformed(ActionEvent e) {
                int no1 = Integer.parseInt(t1.getText());
                int no2 = Integer.parseInt(t2.getText());
                int product = Integer.parseInt(String.valueOf(no2+no1));
                result.setText(String.valueOf( no1+" "+no2+"="+product));
            }
        });
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new addition();
    }
}
```



Practical No : 12

Write a program using JPasswordField to set password character as '#' instead of '\*'.

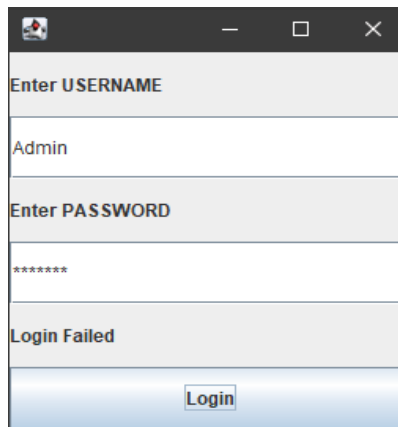
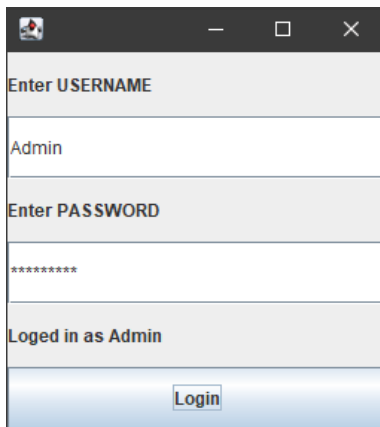
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Login {
    JTextField Uname,Pass;
    JPasswordField Password;
    JLabel l1,l2,result;
    Login(){
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(270,300);
        l1 = new JLabel("Enter USERNAME");
        l2 = new JLabel("Enter PASSWORD");
        result = new JLabel("OUTPUT");
        Uname = new JTextField();
        Password = new JPasswordField();
        Password.setEchoChar('#');
        JButton button = new JButton("Login");
        frame.add(l1);
        frame.add(Uname);
        frame.add(l2);
        frame.add(Password);
        frame.add(result);
        frame.add(button);
        button.addActionListener(new ActionListener() {

            @Override
            public void actionPerformed(ActionEvent e) {
                String uname = Uname.getText();
                String myPass=String.valueOf(Password.getPassword());

                if (uname.equals ("Admin") && myPass.equals ("Admin#123")){
                    result.setText("Logged in as Admin");
                    JOptionPane.showMessageDialog(frame,"Login success");
                }
                else {
                    result.setText("Login Failed");
                    JOptionPane.showMessageDialog(frame,"Login Failed");
                }
            }
        });
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new Login();
    }
}
```



Practical No : 12

Write a program using JPasswordField to accept password from user and if length is less than 6 characters then error message should be displayed "Password length must >6 characters".

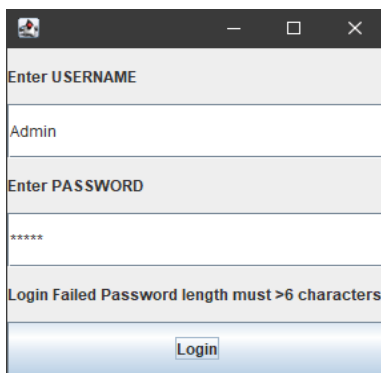
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Login2 {
    JTextField Uname,Pass;
    JPasswordField Password;
    JLabel l1,l2,result;
    String msg;
    Login2(){
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(300,300);
        l1 = new JLabel("Enter USERNAME");
        l2 = new JLabel("Enter PASSWORD");
        result = new JLabel("OUTPUT");
        Uname = new JTextField();
        Password = new JPasswordField();
        Password.setEchoChar('*');
        JButton button = new JButton("Login");
        frame.add(l1);
        frame.add(Uname);
        frame.add(l2);
        frame.add(Password);
        frame.add(result);
        frame.add(button);
        button.addActionListener(new ActionListener() {

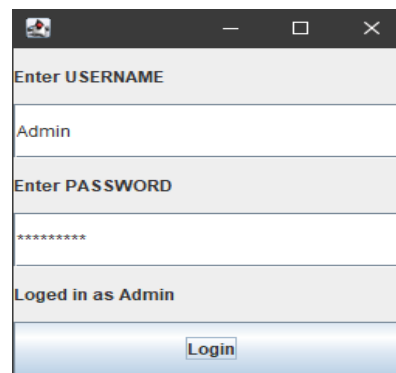
            @Override
            public void actionPerformed(ActionEvent e) {
                String uname = Uname.getText();
                String myPass=String.valueOf(Password.getPassword());

                if (myPass.length() < 6){
                    msg = "Password length must >6 characters";
                }
                if (uname.equals ("Admin") && myPass.equals ("Admin#123")){
                    result.setText("Logged in as Admin");
                    JOptionPane.showMessageDialog(frame,"Login success");
                }
                else {
                    result.setText("Login Failed "+msg);
                    JOptionPane.showMessageDialog(frame,"Login Failed" + msg);
                }
            }
        });
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new Login2();
    }
}
```



The screenshot shows a Java Swing window titled "Login2". It contains a vertical stack of components: a label "Enter USERNAME", a text field containing "Admin", a label "Enter PASSWORD", a password field containing "\*\*\*\*\*", a label "Login Failed Password length must >6 characters", and a "Login" button at the bottom.



The screenshot shows the same Java Swing window titled "Login2". In this state, the password field contains "123" (masked as "\*\*\*\*\*"), and the output label now displays "Logged in as Admin". The "Login" button remains at the bottom.

Practical No : 11

Write a program count no of clicks performed by user in frame window.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;

public class clickCount {
    JLabel l1;
    int count = 0;
    clickCount(){
        JFrame frame = new JFrame();
        frame.setSize(270,300);
        l1 = new JLabel("0");
        l1.setFont(new Font("Arial", Font.BOLD,100));
        frame.add(l1);
        frame.addMouseListener(new MouseListener() {

            @Override
            public void mouseClicked(MouseEvent e) {
                count++;
                l1.setText(String.valueOf(count));
            }

            @Override
            public void mousePressed(MouseEvent e) {}

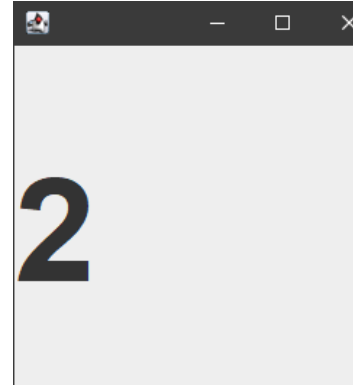
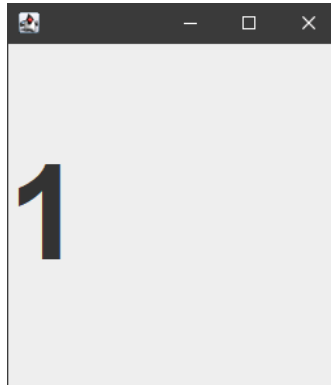
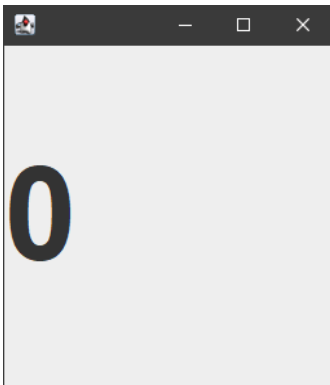
            @Override
            public void mouseReleased(MouseEvent e) {}

            @Override
            public void mouseEntered(MouseEvent e) {}

            @Override
            public void mouseExited(MouseEvent e) {}
        });

        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new clickCount();
    }
}
```



Practical No : 11

Write a program to change background color of Applet When user performs events using mouse.

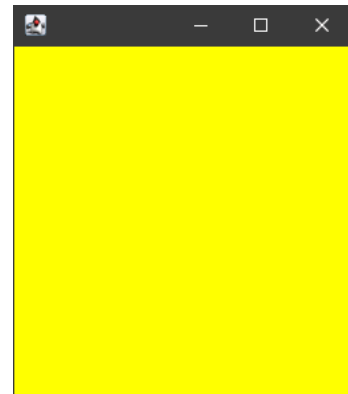
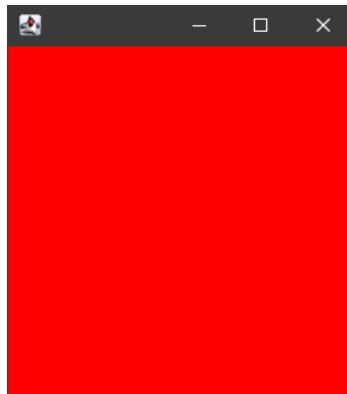
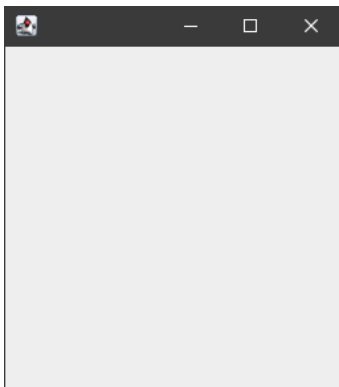
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;

public class changeBg {
    JFrame frame;
    changeBg(){
        frame = new JFrame();
        frame.setBackground(Color.BLUE);
        frame.setSize(270,300);
        frame.addMouseListener(new MouseListener() {

            @Override
            public void mouseClicked(MouseEvent e) {}
            @Override
            public void mousePressed(MouseEvent e) {
                frame.getContentPane().setBackground(Color.RED);
            }
            @Override
            public void mouseReleased(MouseEvent e) {
                frame.getContentPane().setBackground(Color.YELLOW);
            }
            @Override
            public void mouseEntered(MouseEvent e) {}
            @Override
            public void mouseExited(MouseEvent e) {}
        });

        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new changeBg();
    }
}
```



Practical No : 11

Write a Program to demonstrate the use of  
mouseDragged and mouseMoved method of  
MouseMotionListener.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;
import java.awt.event.MouseMotionListener;

public class Mouse2 {
    JFrame frame;
    int x = 0;

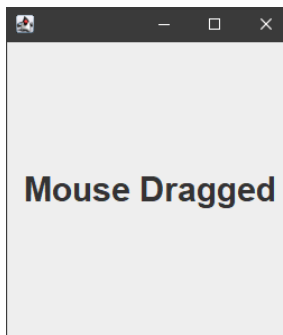
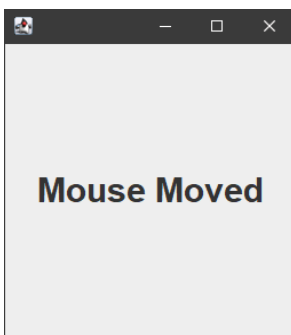
    Mouse2() {
        frame = new JFrame();
        JLabel label = new JLabel("Mouse ");
        label.setHorizontalAlignment(JLabel.CENTER);
        label.setFont(new Font("Arial", Font.BOLD, 30));
        frame.setSize(270, 300);
        frame.addMouseMotionListener(new MouseMotionListener() {

            @Override
            public void mouseDragged(MouseEvent e) {
                label.setText("Mouse Dragged");
            }

            @Override
            public void mouseMoved(MouseEvent e) {
                label.setText("Mouse Moved");
            }

        });
        frame.add(label);
        frame.setVisible(true);
    }

    public static void main(String[] args) {
        new Mouse2();
    }
}
```



Practical No :15

Write a program using you a URL class to retrieve the host, protocol, port and file of URL <http://www.msbte.org.in>

```
import java.net.MalformedURLException;
import java.net.URL;

public class URLDemo2 {
    public static void main(String[] args) throws
    MalformedURLException {
        URL hp = new URL("https://www.msbte.org.in");
        System.out.println("Protocol : " + hp.getProtocol());
        System.out.println("Port : " + hp.getPort());
        System.out.println("Host : " + hp.getHost());
        System.out.println("File : " + hp.getFile());
        System.out.println("Port : " + hp.toExternalForm());
    }
}
```

Protocol : https

Port : -1

Host : [www.msbte.org.in](http://www.msbte.org.in)

File :

Port : <https://www.msbte.org.in>

Process finished with exit code 0

Practical No : 15	Write a program using URL and URLConnection class to retrieve the date, content type, content length information about any URL
<pre> import java.net.URL; import java.net.URLConnection; import java.util.Scanner; import java.io.IOException; import java.net.MalformedURLException; import java.util.Date;  public class URLInfo {     public static void main(String[] args) throws IOException ,     MalformedURLException     {         Scanner sc = new Scanner(System.in);          System.out.print("Enter any Url: ");         String ad = sc.nextLine();          URL url = new URL(ad);         URLConnection uc = url.openConnection();          System.out.println("Date:"+ new Date(uc.getDate()) );         System.out.println("Content Type: "+ uc.getContentType());         System.out.println("Content Length: "+ uc.getContentLength());      } } </pre>	
<p>Enter any Url: <a href="https://www.msbte.org.in">https://www.msbte.org.in</a></p> <p>Date: Tue Nov 07 18:00:58 GMT-12:00 2023</p> <p>Content Type: text/html; charset=us-ascii</p> <p>Content Length: 315</p>	

Practical No : 15	Execute the code a and output
<pre>import java.net.MalformedURLException; import java.net.URL;  public class URLEDemo {     public static void main(String[] args) throws MalformedURLException {         URL hp = new URL("https://www.javapoint.com/javafx-tutorial");         System.out.println("Protocol : " + hp.getProtocol());         System.out.println("Port : " + hp.getPort());         System.out.println("Host : " + hp.getHost());         System.out.println("File : " + hp.getFile());         System.out.println("Port : " + hp.toExternalForm());     } }</pre>	
<p>Protocol : https Port : -1 Host : <a href="http://www.javapoint.com">www.javapoint.com</a> File : /javafx-tutorial Port : <a href="https://www.javapoint.com/javafx-tutorial">https://www.javapoint.com/javafx-tutorial</a></p> <p>Process finished with exit code 0</p>	

Practical No : 14	Execute the following code and write the output
<pre>import java.net.InetAddress;  public class InetDemo {     public static void main(String[] args) {         try {             InetAddress ip = InetAddress.getByName("localhost");             System.out.println("Host Name :"+ip.getHostName());             System.out.println("IP Address :"+ip.getHostAddress());         } catch (Exception e) {             System.out.println(e);         }     } }</pre>	
<pre>Host Name :localhost IP Address :127.0.0.1</pre>	

Practical No : 14	Devlope a program using InetAddress class to retrive IP address of computer when hostname entered by user
<pre>import java.net.InetAddress; import java.util.Scanner;  public class InetDemo2 {     public static void main(String[] args) {         Scanner sc = new Scanner(System.in);         System.out.println("Please enter Hostname");         String H = sc.next();         try {             InetAddress ip = InetAddress.getByName(H);             System.out.println("Host Name :"+ip.getHostName());             System.out.println("IP Address :"+ip.getHostAddress());         } catch (Exception e) {             System.out.println(e);         }     } }</pre>	
<pre>Please enter Hostname localhost Host Name :localhost IP Address :127.0.0.1</pre>	

Practical No : 18

Write a program to create Student Table in database and insert record in a student table

```
import java.sql.*;
import java.sql.Statement.*;
import java.io.*;
public class StudentDb {
    public static void main(String args[]) {
        try {
            Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
            System.out.println("Driver Loaded");
            String url = "jdbc:odbc:TYCM";
            Connection con = DriverManager.getConnection(url);
            System.out.println("connected");
            Statement s = con.createStatement();
            Statement si = con.createStatement();
            Statement st = con.createStatement();
            s.executeUpdate("create table student1(Name varchar(20), Rollno
integer, Percentage integer)");
            System.out.println("Table created");
            si.executeUpdate("insert into student1 values('abc',1,78)");
            si.executeUpdate("insert into student1 values('xyz',2,34)");
            si.executeUpdate("insert into student1 values('pqr',3,89)");
            si.executeUpdate("insert into student1 values('hij',4,60)");
            System.out.println("Data inserted");
            String s1;
            s1 = "select * from student1 where Percentage > 70";
            ResultSet rs = st.executeQuery(s1);
            rs = st.getResultSet();
            System.out.println("Students having percentage > 70 :");
            while (rs.next()) {
                System.out.println(rs.getString("Name") + " " +
rs.getInt("Rollno") + " " + rs.getInt("Percentage"));
            }
            con.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }
}
```

Command Prompt

```
C:\adv>javac StudentDb.java
C:\adv>java StudentDb
Driver Loaded
connected
Table created
Data inserted
Students having percentage > 70 :
abc 1 78
pqr 3 89
```

Practical No : 18

Develop program to create Employee Table in database having two columns "em\_pid" and "emp\_name"

```
import java.sql.*;
import java.sql.Statement.*;
import java.io.*;
public class SampleDb {
    public static void main(String args[]) {
        try {
            Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
            System.out.println("Driver Loaded");
            String url = "jdbc:odbc:TYCM";
            Connection con = DriverManager.getConnection(url);
            System.out.println("connected");
            Statement s = con.createStatement();
            Statement si = con.createStatement();
            Statement st = con.createStatement();
            s.executeUpdate("create table emp(Name varchar(20), ID integer,
Salary integer)");
            System.out.println("Table created");
            si.executeUpdate("insert into emp values('abc',123,10000)");
            si.executeUpdate("insert into emp values('xyz',456,20000)");
            si.executeUpdate("insert into emp values('pqr',678,30000)");
            System.out.println("Data inserted");
            String s1;
            s1 = "select * from emp";
            ResultSet rs = st.executeQuery(s1);
            rs = st.getResultSet();
            while (rs.next()) {
                System.out.println(rs.getString("Name") + " " +
rs.getInt("ID") + " " + rs.getInt("Salary"));
            }
            con.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }
}
```

```
C:\adv>javac SampleDb.java
```

```
C:\adv>java SampleDb
```

```
Driver Loaded
```

```
connected
```

```
abc 123 10000
```

```
xyz 456 20000
```

```
pqr 678 30000
```

Practical No : 18

Developer program to display name and roll number of student from Student table having percentage > 70

```
import java.sql.*;
public class Student {
    public static void main(String[] args) {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection con = DriverManager.getConnection(
                "jdbc:mysql://localhost:3306/studentdb", "username", "password");
            Statement stmt = con.createStatement();
            ResultSet rs = stmt.executeQuery("SELECT name, roll_no FROM student
WHERE percentage > 70");

            while (rs.next()) {
                System.out.println("Name: " + rs.getString(1) + ", Roll Number: " +
rs.getString(2));
            }
            con.close();

        } catch (Exception e) {
            System.out.println(e);
        }
    }
}

si.executeUpdate("insert into std values('xyz',2,65)");
si.executeUpdate("insert into std values('pqr',3,90)");
System.out.println("Data inserted");
String s1;
s1 = "select * from std WHERE Percentage > 70";
ResultSet rs = st.executeQuery(s1);
rs = st.getResultSet();
while (rs.next()) {
    System.out.println(rs.getString("Name") + " " + rs.getInt("Rollno") + " " +
rs.getInt("Percentage"));
}
con.close();
}
catch (Exception e) {
    System.out.println(e);
}
}
}
```

Command Prompt

```
C:\adv>javac StudentDb.java

C:\adv>java StudentDb
Driver Loaded
connected
Table created
Data inserted
Students having percentage > 70 :
abc 1 78
pqr 3 89
```

Practical No : 18

Write the output of following code

```
import java.sql * ;
class JdbcDemo public static void main(String args[]) {
    try {
        DriverManager.registerDriver(new
sun.jdbc.odbc.JdbcOdbcDriver());
        System.out.println(" Driver loaded");
        String url = "jdbc:odbc:MSBTE";
        Connection cn = DriverManager.getConnection(url);
        System.out.println("Connection to the database created");
        Statement st = cn.createStatement();
        String str = "select* from student";
        ResultSet rs = st.executeQuery(str);
        String text = " ";
        System.out.println("Roll Number \t Name");
        while (rs.next()) {
            text = text + rs.getInt(1) + "\t" + rs.getString(2) +
"\n";
        }
        System.out.print(text);
        St.close();
        cn.close();
    } catch (SQLException s) {
        System.out.println("sql error");
    }
}
```

## OUTPUT

```
javac / tmp / 6 diYI4wqH0 / JdbcDemo.java / tmp / 6 diYI4wqH0 /
JdbcDemo.java: 1: error: ';'
expected
import java.sql * ; ^
/tmp/
6 diYI4wqH0 / JdbcDemo.java: 2: error: '{'
expected class JdbcDemo ^ /tmp/
6 diYI4wqH0 / JdbcDemo.java: 27: error: reached end of file
while parsing
} ^ 3 error
```

Practical No :22	

Practical No :22	

Practical No :22	

Practical No : 22	



Exp 22 - exp 22 ajp

Computer Science and Engineering (Vivekananda Institute of Technology and Science)

## X. Program Code

1) Write a Program to send the username to server and server will send the length of username to client.

### Client:

```
import java.io.*;
import java.net.*;

public class client {
    public static void main(String[] args) {
        String serverAddress = "localhost";
        int serverPort = 12345;
        try (Socket socket = new Socket(serverAddress, serverPort);
            BufferedReader keyboardInput = new BufferedReader(new InputStreamReader(System.in));
            BufferedReader reader = new BufferedReader(new
InputStreamReader(socket.getInputStream()));
            PrintWriter writer = new PrintWriter(socket.getOutputStream(), true)) {

            System.out.print("Enter a username: ");
            String username = keyboardInput.readLine();

            writer.println(username);

            int usernameLength = Integer.parseInt(reader.readLine());

            System.out.println("Username length received from server: " + usernameLength);
            System.out.println("\nExecuted By Krishh Lohar");
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

### Server:

```
import java.io.*;
import java.net.*;

public class Server {
    public static void main(String[] args) {
        int port = 12345;
        try (ServerSocket serverSocket = new ServerSocket(port)) {
            System.out.println("Server is listening on port " + port);

            while (true) {
                try (Socket clientSocket = serverSocket.accept();
```

```

        BufferedReader reader = new BufferedReader(new
InputStreamReader(clientSocket.getInputStream()));
        PrintWriter writer = new PrintWriter(clientSocket.getOutputStream(), true) {

            String username = reader.readLine();
            int usernameLength = username.length();

            writer.println(usernameLength);
        } catch (IOException e) {
            e.printStackTrace();
        }
    } catch (IOException e) {
        e.printStackTrace();
    }
}
}

```

### **Client Output:**

```

C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples\WEB-INF\classes>javac client.java
C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples\WEB-INF\classes>java client
Enter a username: krishhh
Username length received from server: 7
Executed By Krishh Lohar

```

### **Server Output:**

```

C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples\WEB-INF\classes>javac Server.java
C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples\WEB-INF\classes>java Server
Server is listening on port 12345

```

**2) Write the output of following code considering below HTML is front end and servlet as back end.**

### Login.html

```
<html>
<body>
  <form action="http://localhost:8080/examples/servlets/servlet/AS" method="POST">
    User Name:<input type="text" name="username"><br>
    Password:<input type="password" name="password"><br>
    <input type="submit">
  </form>
</body>
</html>
```

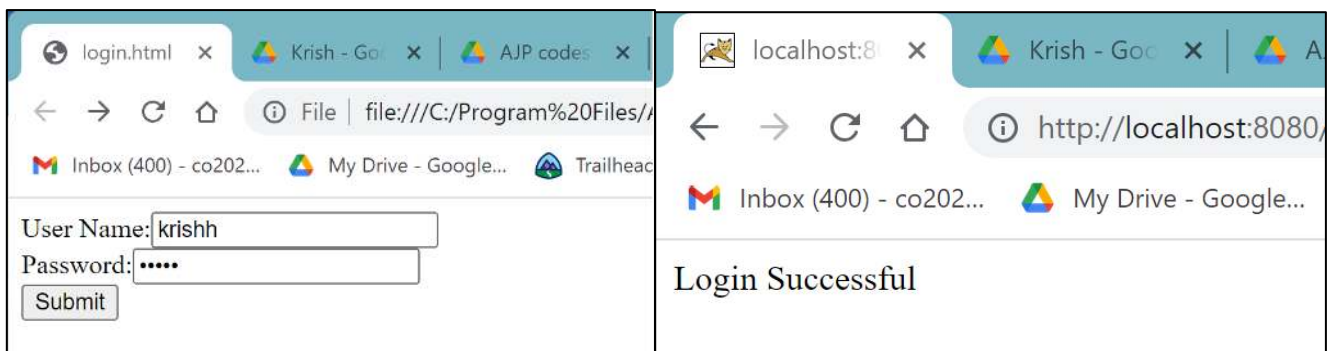
### AS.java

```
import java.io.*;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class AS extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();

        String correctPassword = "12345";
        String username = request.getParameter("username");
        String password = request.getParameter("password");

        if (username.equals("krishh") && password.equals(correctPassword)) {
            out.println("Login Successful");
        } else {
            out.println("Login Unsuccessful");
        }
    }
}
```



### XIII. Exercise

#### 1) Develop servlet program to retrieve data from List and Radio Button using HTML Forms.

##### fruit.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Form Example</title>
</head>
<body>
  <h1>Form Example</h1>
  <form action="http://localhost:8080/examples/servlets/servlet/radio" method="post">
    <label for="fruitList">Select a fruit:</label>
    <select name="fruitList" id="fruitList">
      <option value="Apple">Apple</option>
      <option value="Banana">Banana</option>
      <option value="Cherry">Cherry</option>
      <option value="Orange">Orange</option>
    </select>
    <br>
    <label>Gender:</label>
    <input type="radio" name="genderRadio" value="Male" id="maleRadio"> <label
for="maleRadio">Male</label>
    <input type="radio" name="genderRadio" value="Female" id="femaleRadio"> <label
for="femaleRadio">Female</label>
    <br>
    <br><input type="submit" value="Submit">
    <br><br>Executed By Krishh Lohar
  </form>
</body>
</html>
```

##### radio.java

```
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 radio extends HttpServlet {
  protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
    response.setContentType("text/html");
```

```

        PrintWriter out = response.getWriter();
        out.println("<html><body>");

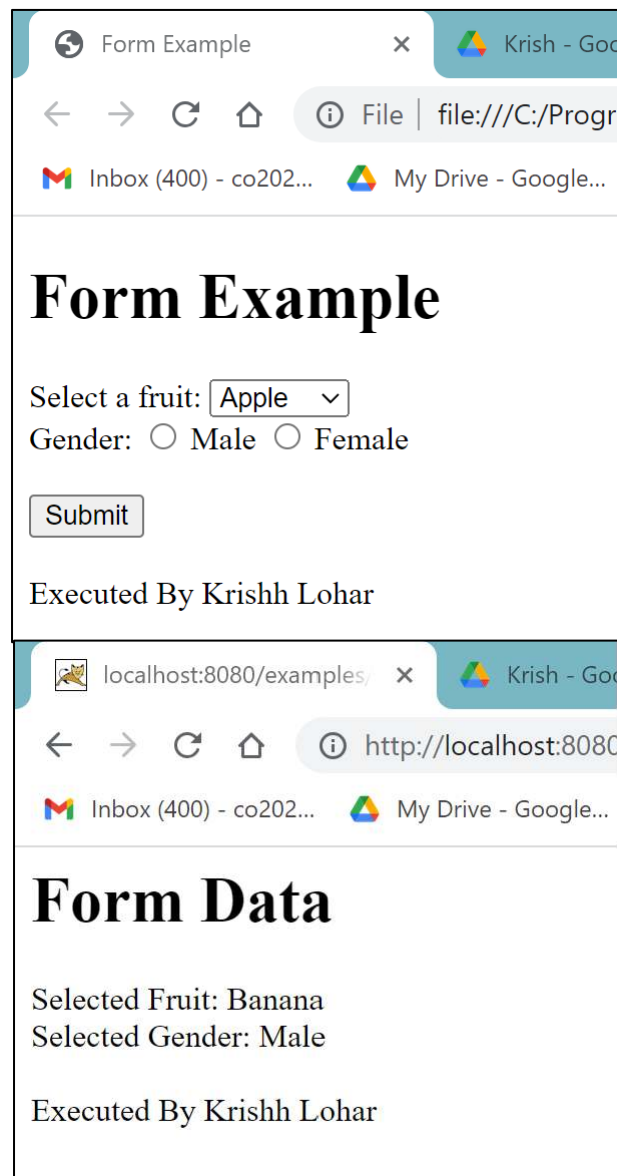
        String selectedOption = request.getParameter("fruitList");

        String selectedRadio = request.getParameter("genderRadio");

        out.println("<h1>Form Data</h1>");
        out.println("Selected Fruit: " + selectedOption + "<br>");
        out.println("Selected Gender: " + selectedRadio + "<br>");

        out.println("<br>Executed By Krishh Lohar</body></html>");
    }
}

```



## 2) Develop a program to receive student subject marks through HTML forms TextField and send the response as passed or Failed in Examination.

### Subject.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Exam Form</title>
</head>
<body>
  <h1>Enter Subject Marks</h1>
  <form action="http://localhost:8080/examples/servlets/servlet/subject" method="post">
    <label for="math">Math Marks:</label>
    <input type="text" name="math" id="math" required>
    <br>
    <label for="science">Science Marks:</label>
    <input type="text" name="science" id="science" required>
    <br>
    <label for="history">History Marks:</label>
    <input type="text" name="history" id="history" required>
    <br><br>
    <input type="submit" value="Check Result">
    <br><br>Executed By Krishh Lohar
  </form>
</body>
</html>
```

### subject.java

```
import java.io.*;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;

@WebServlet("/ExamResultServlet")
public class subject extends HttpServlet {
  protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
  ServletException, IOException {
    response.setContentType("text/html");

    PrintWriter out = response.getWriter();
    out.println("<html><body>");

    int mathMarks = Integer.parseInt(request.getParameter("math"));
    int scienceMarks = Integer.parseInt(request.getParameter("science"));
    int historyMarks = Integer.parseInt(request.getParameter("history"));

    int passingThreshold = 40;
```

```

boolean hasPassed = (mathMarks >= passingThreshold) && (scienceMarks >= passingThreshold)
&& (historyMarks >= passingThreshold);

out.println("<h1>Exam Result</h1>");
out.println("Math Marks: " + mathMarks + "<br>");
out.println("Science Marks: " + scienceMarks + "<br>");
out.println("History Marks: " + historyMarks + "<br>");

if (hasPassed) {
    out.println("<p style='color: green;'>Result: Passed</p>");
} else {
    out.println("<p style='color: red;'>Result: Failed</p>");
}

out.println("Executed By Krishh Lohar</body></html>");
}
}

```

## Enter Subject Marks

Math Marks:

Science Marks:

History Marks:

Executed By Krishh Lohar

## Exam Result

Math Marks: 65  
Science Marks: 23  
History Marks: 1

**Result: Failed**

Executed By Krishh Lohar