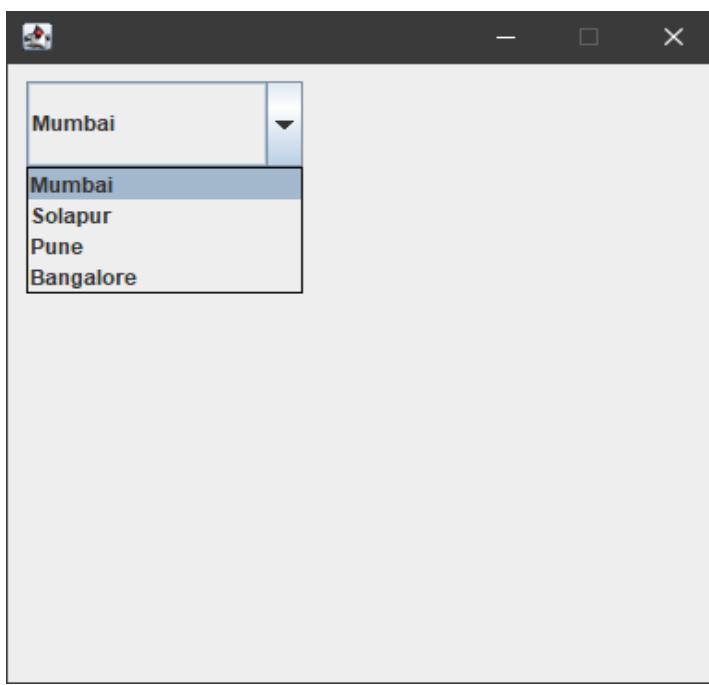


Practical No : 6

```
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);

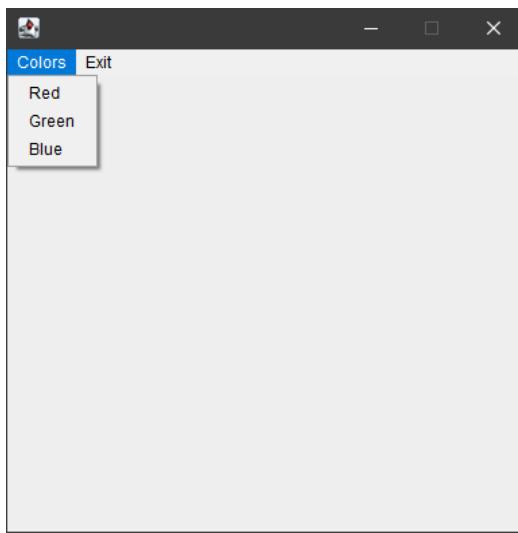
        Menu Colors = new Menu("Colors");
        Menu Exit = new Menu("Exit");

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

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

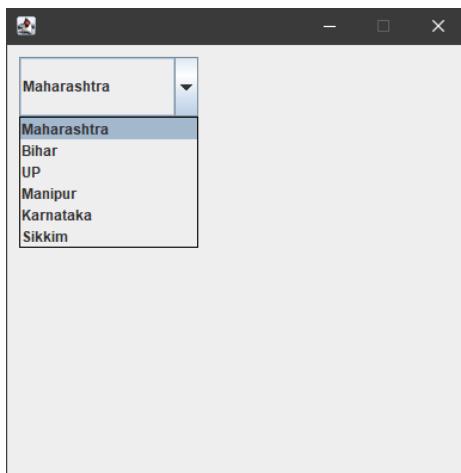
        Exit.add(new MenuItem("Exit"));

        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
------------------	---

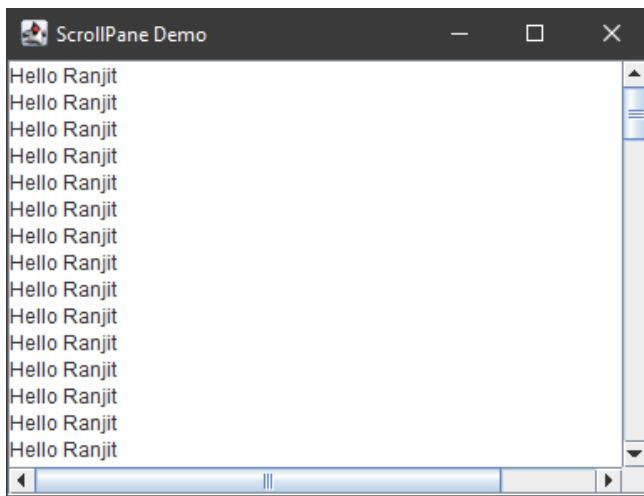
```
import javax.swing.*;
import java.awt.*;

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,red,black,blue,green,yellow;
    JTreeDemo()
    {
        f=new JFrame();

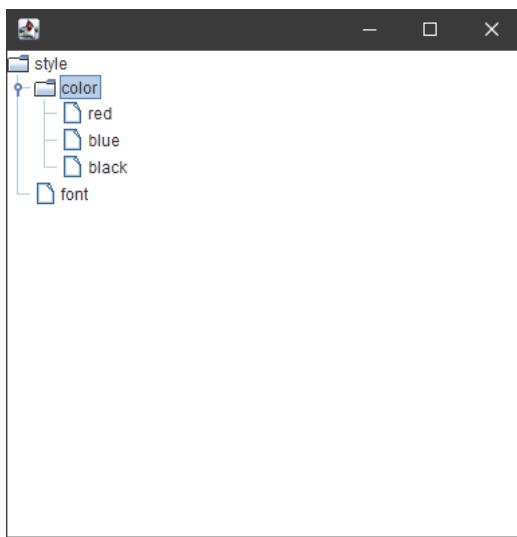
        style = new DefaultMutableTreeNode("style");
        color = new DefaultMutableTreeNode("color");

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

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

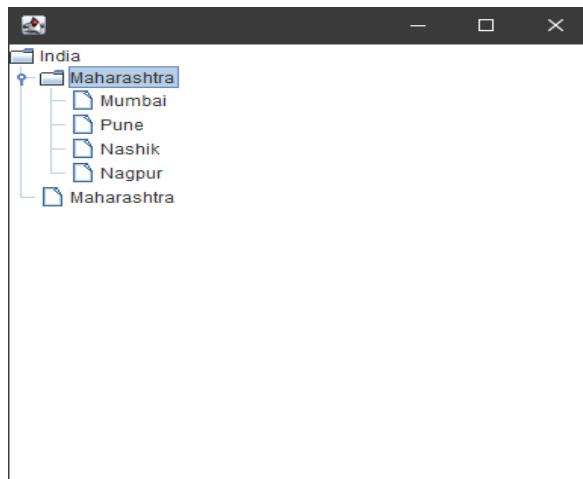
        JTree jt=new JTree(style);
        f.add(jt);
        f.setLocationRelativeTo(null);
        f.setSize(400,400);
        f.setVisible(true);
    }
    public static void main(String[] args) {
        new JTreeDemo();
    }
}

```



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");

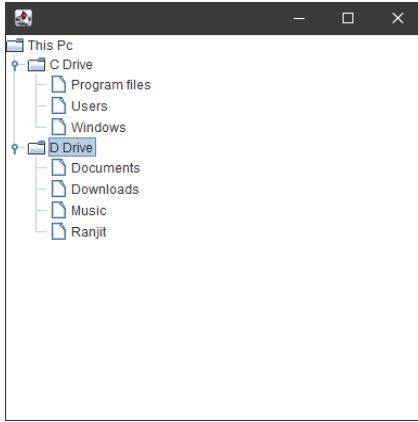
        CD.add(new DefaultMutableTreeNode("Program files"));
        CD.add(new DefaultMutableTreeNode("Users"));
        CD.add(new DefaultMutableTreeNode("Windows"));

        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
------------------	--

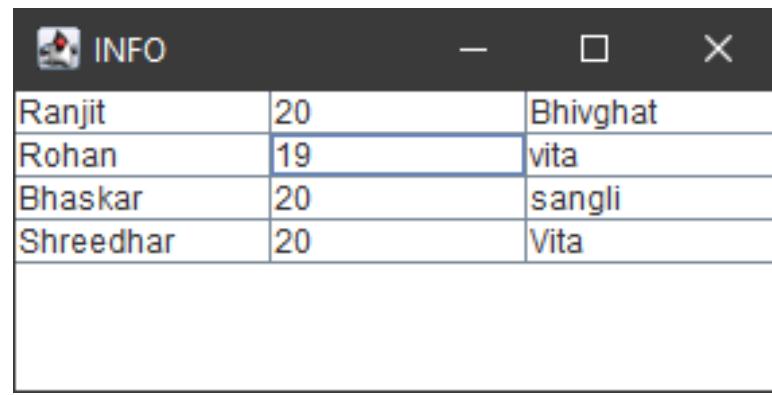
```
import javax.swing.*;
import java.awt.*;

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

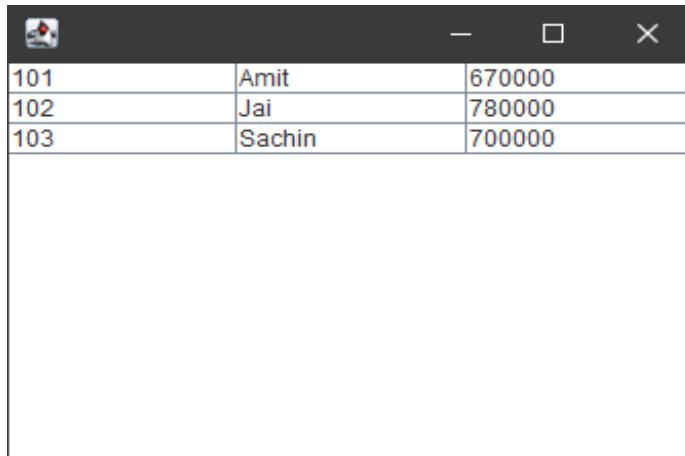
        String[] ColumnHeads = {"Names", "Age", "City"};

        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();
    }
}
```



Practical No : 8 Write a program code to generate following output.



ID	NAME	SALARY
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();
    }
}

```

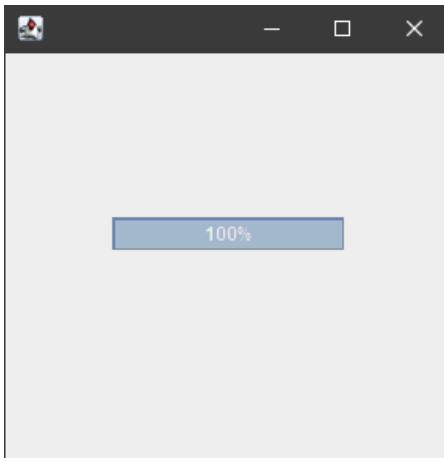


The screenshot shows a Java application window titled 'JTableDemo'. The window contains a JTable with 10 rows of data. The columns are labeled 'Id', 'Student Name', 'Grade', and 'Percentage'. The data is as follows:

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

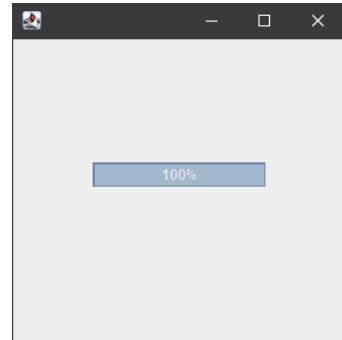
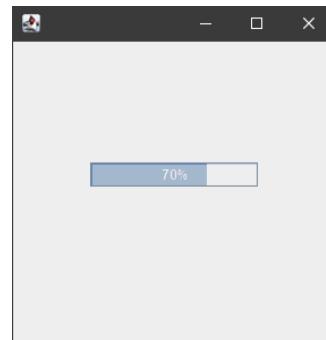
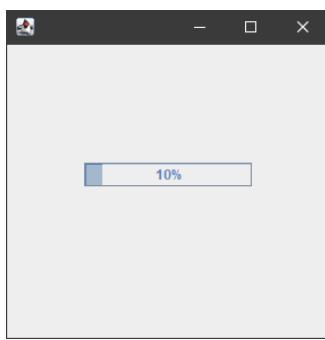
Develop a program to demonstrate the use of JProgressBar

```
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 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");

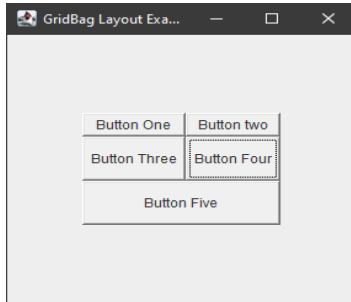
        panel.add(progressBar);
        panel.add(hitMe);
        frame.add(panel);
        frame.setVisible(true);
        hitMe.addActionListener(new ActionListener() {
            int state = 0;
            @Override
            public void actionPerformed(ActionEvent e) {
                if (state == 100) {
                    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;

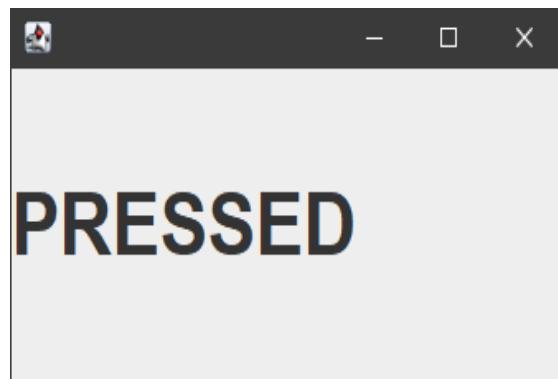
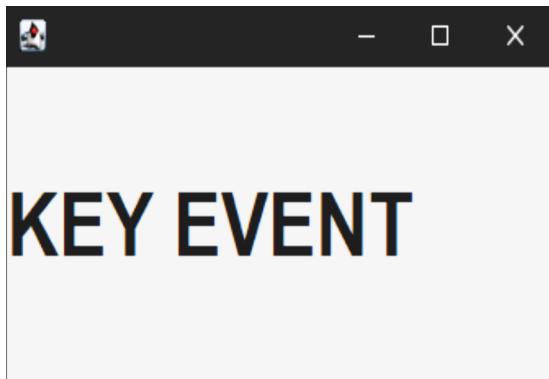
public class KeyEventDemo2 implements KeyListener {
    JLabel label;
    KeyEventDemo2() {
        JFrame frame = new JFrame();
        frame.setSize(350, 200);
        label = new JLabel("KEY EVENT");
        label.setFont(new Font("Arial", Font.BOLD, 44));
        frame.add(label);
        frame.addKeyListener(this);
        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

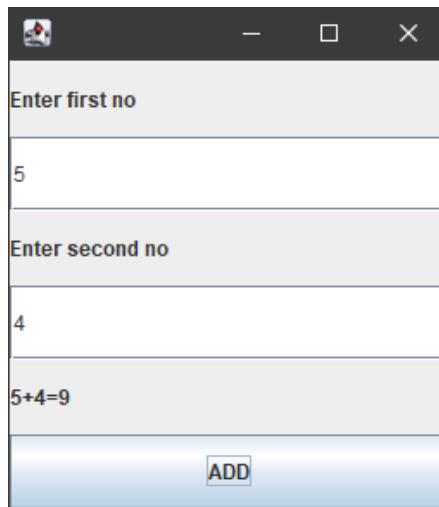
Write a program using JTextField to perform addition of two numbers.

```
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;

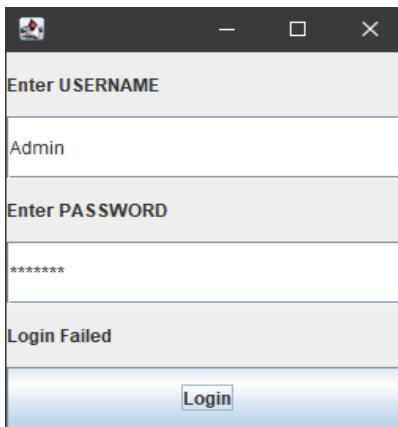
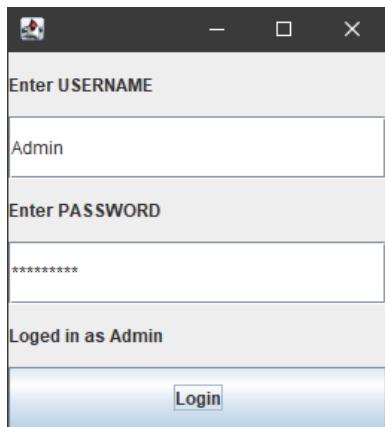
public class Login {
    JTextField Uname,Pass;
    JPasswordField Password;
    JLabel l1,l2,result;
    Login() {
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(270,300);
        l1 = new JLabel("Enter USERNAME");
        l2 = new JLabel("Enter 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("Loged 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;

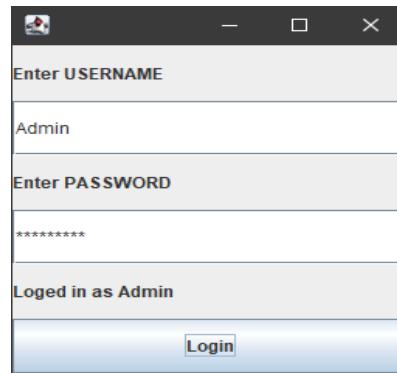
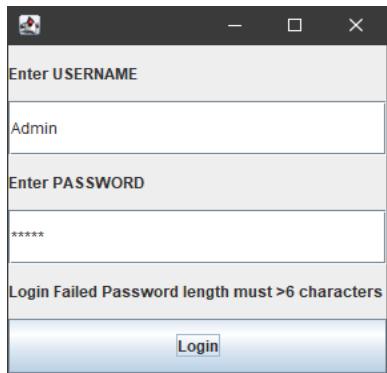
public class Login2 {
    JTextField Uname,Pass;
    JPasswordField Password;
    JLabel l1,l2,result;
    String msg;
    Login2(){
        JFrame frame = new JFrame();
        frame.setLayout(new GridLayout(6,1));
        frame.setSize(300,300);
        l1 = new JLabel("Enter USERNAME");
        l2 = 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("Loged 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();
    }
}
```



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) {}

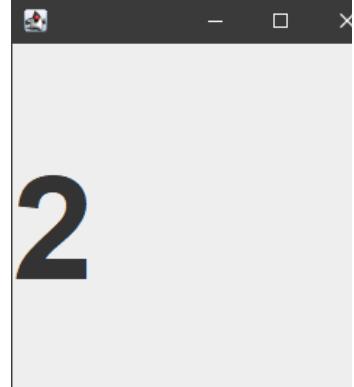
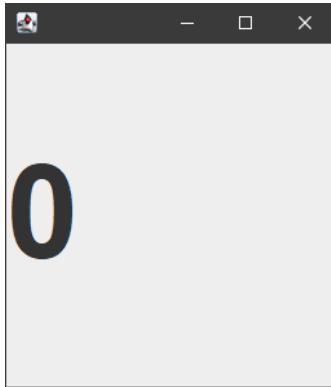
            @Override
            public void mouseReleased(MouseEvent e) {}

            @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

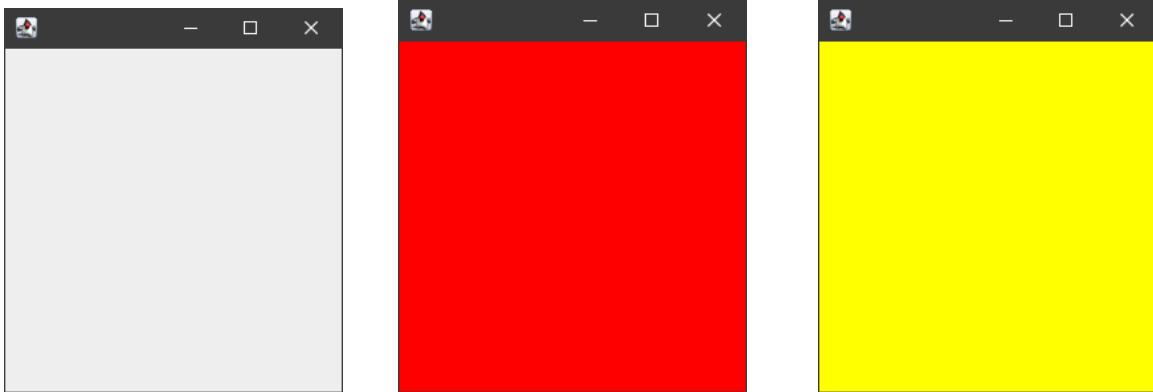
Write a program to change background color of Applet When user performs events using mouse.

```
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;

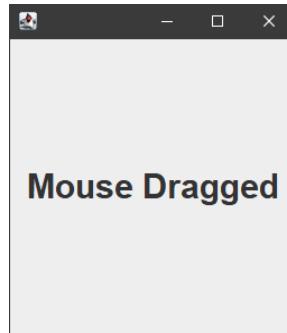
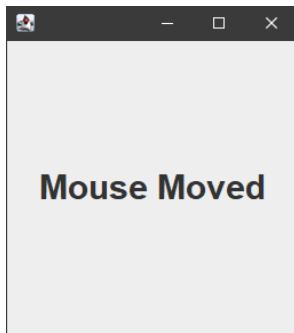
public class Mouse2 {
    JFrame frame;
    int x = 0;

    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
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

```
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());

    }
}
```

Enter any Url: <https://www.msbte.org.in>

Date:Tue Nov 07 18:00:58 GMT-12:00 2023

Content Type: text/html; charset=us-ascii

Content Length: 315

Practical No : 15

Execute the code a and output

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

public class URLDemo {
    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());
}
}
```

```
Protocol : https
Port : -1
Host : www.javapoint.com
File : /javafx-tutorial
Port : https://www.javapoint.com/javafx-tutorial
```

```
Process finished with exit code 0
```

Practical No : 14	Execute the following code and write the output
-------------------	---

```
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);
        }
    }
}
```

```
Host Name :localhost
IP Address :127.0.0.1
```

Practical No : 14	Devlope a program using InetAddress class to retrive IP address of computer when hostname entered by user
-------------------	---

```
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);
        }
    }
}
```

```
Please enter Hostname
localhost
Host Name :localhost
IP Address :127.0.0.1
```

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
	<pre>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); } }</pre>

```
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();  
    }  
}  
}  
}  
}
```

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>
```

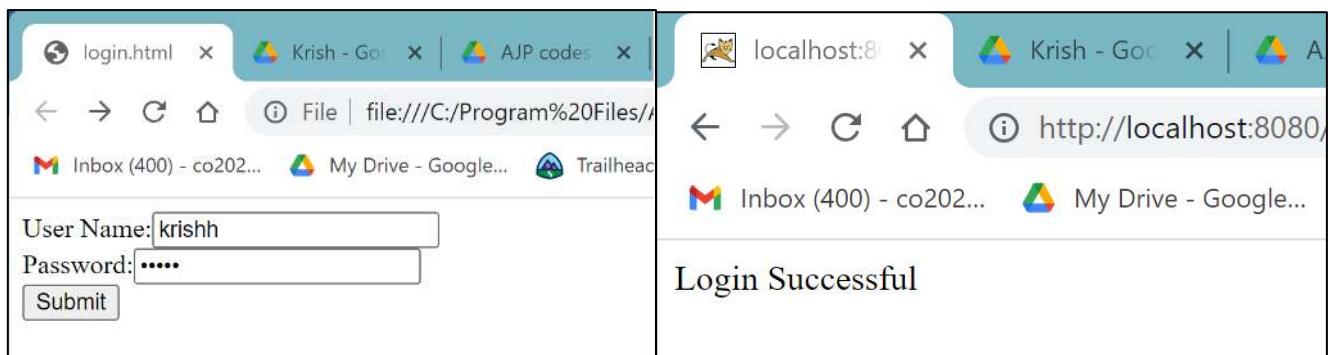
AS.java

```
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/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>");
}
}

```

The image contains two screenshots of a web browser window. Both screenshots show a title bar with the text 'Form Example' and a tab labeled 'Krish - Google'. The browser interface includes standard navigation buttons (back, forward, search, home) and a file menu.

Screenshot 1 (Top):

- The main content area displays the heading 'Form Example'.
- Below it, there is a form section with the following fields:
 - 'Select a fruit:' followed by a dropdown menu set to 'Apple'.
 - 'Gender:' followed by two radio buttons labeled 'Male' and 'Female'.
 - A 'Submit' button.
- At the bottom of the page, the text 'Executed By Krishh Lohar' is displayed.

Screenshot 2 (Bottom):

- The main content area displays the heading 'Form Data'.
- Below it, the text 'Selected Fruit: Banana' and 'Selected Gender: Male' are displayed.
- At the bottom of the page, the text 'Executed By Krishh Lohar' is displayed.

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