LAB 11

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S No.	Title	Date Of Implementation	Remarks
1	Program to illustrate layout manager	04-04-2022	

Program to illustrate Layout Manager

OBJECTIVE:

The objective of the following program is to illustrate various layout manager operations:

```java
package com.company;
import org.w3c.dom.Text;

import javax.swing.*;
import java.util.Scanner;
import java.awt.*;
import java.awt.event.*;
class flowLayout extends Frame{
    Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b10;
    public flowLayout(){
        super("Flow Layout Demo");
        b1=new Button("One");
        b2=new Button("Two");
        b3=new Button("Three");
        b4=new Button("Four");
        b5=new Button("Five");
        b6=new Button("Six");
        b7=new Button("Seven");
        b8=new Button("Eight");
        b9=new Button("Nine");
        b10=new Button("Ten");
        FlowLayout fl=new FlowLayout();
        fl.setAlignment(FlowLayout.CENTER);
        fl.setHgap(50);
        setLayout(fl);
        add(b1);
        add(b2);
        add(b3);
        add(b4);
        add(b5);
        add(b6);
        add(b7);
        add(b8);
        add(b9);
        add(b10);
    }
}
class borderLayout extends Frame{
    Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b10;
    public borderLayout(){
        super("Border Layout Demo");
        b1=new Button("One");
        b2=new Button("Two");
        b3=new Button("Three");
        b4=new Button("Four");
        b5=new Button("Five");
        b6=new Button("Mon");
        b7=new Button("Tue");
        b8=new Button("Wed");
        b9=new Button("Thru");
        b10=new Button("Fri");
        add(b2, BorderLayout.WEST);
        add(b3, BorderLayout.EAST);
        add(b4, BorderLayout.NORTH);
        add(b5, BorderLayout.SOUTH);
        Panel p=new Panel(new GridLayout());
        p.add(b6);
        p.add(b7);
        p.add(b8);
        p.add(b9);
```

```java
            p.add(b10);
            add(p, BorderLayout.CENTER);

    }
}
class gridLayout extends Frame{
    Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b10;
    public gridLayout(){
        super("Grid Layout Demo");
        b1=new Button("One");
        b2=new Button("Two");
        b3=new Button("Three");
        b4=new Button("Four");
        b5=new Button("Five");
        b6=new Button("Six");
        b7=new Button("Seven");
        b8=new Button("Eight");
        b9=new Button("Nine");
        b10=new Button("Ten");
        GridLayout gl=new GridLayout(4, 3);
        setLayout(gl);
        add(b1);
        add(b2);
        add(b3);
        add(b4);
        add(b5);
        add(b6);
        add(b7);
        add(b8);
        add(b9);
        add(b10);
    }
}
class gridBagLayout extends Frame{
    Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b10;
    public gridBagLayout(){
        super("GridBag Layout Demo");
        b1=new Button("One");
        b2=new Button("Two");
        b3=new Button("Three");
        b4=new Button("Four");
        b5=new Button("Five");
        b6=new Button("Six");
        GridBagLayout gb=new GridBagLayout();
        GridBagConstraints gbc=new GridBagConstraints();
        setLayout(gb);
        gbc.gridx=1;
        gbc.gridy=1;
        add(b1, gbc);
        gbc.gridx=2;
        gbc.gridy=2;
        add(b2, gbc);
        gbc.gridx=3;
        gbc.gridy=3;
        add(b3, gbc);
        gbc.gridx=4;
        gbc.gridy=4;
        add(b4, gbc);
        gbc.gridx=5;
        gbc.gridy=5;
        add(b5, gbc);
        gbc.gridx=6;
        gbc.gridy=6;
        add(b6, gbc);
    }
}
class cardLayout extends Frame {
```

```java
JFrame frame = new JFrame("CardLayout demo");
JPanel panelCont = new JPanel();
JPanel panelFirst = new JPanel();
JPanel panelSecond = new JPanel();
JButton buttonOne = new JButton("Switch to second panel/workspace");
JButton buttonSecond = new JButton("Switch to first panel/workspace");
CardLayout cl = new CardLayout();

public cardLayout() {
    panelCont.setLayout(cl);
    panelFirst.add(buttonOne);
    panelSecond.add(buttonSecond);
    panelFirst.setBackground(Color.BLUE);
    panelSecond.setBackground(Color.GREEN);

    panelCont.add(panelFirst, "1");
    panelCont.add(panelSecond, "2");
    cl.show(panelCont, "1");

    buttonOne.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent arg0) {
            cl.show(panelCont, "2");
        }
    });

    buttonSecond.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent arg0) {
            cl.show(panelCont, "1");
        }
    });
    frame.add(panelCont);
    frame.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
    frame.pack();
    frame.setVisible(true);
}
}
public class layoutManager {
    public static void main(String[] args) {
        flowLayout f = new flowLayout();
        f.setSize(500, 500);
        f.setVisible(true);
        borderLayout b = new borderLayout();
        b.setSize(500, 500);
        b.setVisible(true);
        gridLayout g = new gridLayout();
        g.setSize(500, 500);
        g.setVisible(true);
        gridBagLayout gb = new gridBagLayout();
        gb.setSize(500, 500);
        gb.setVisible(true);
        cardLayout cd = new cardLayout();
    }
}
```
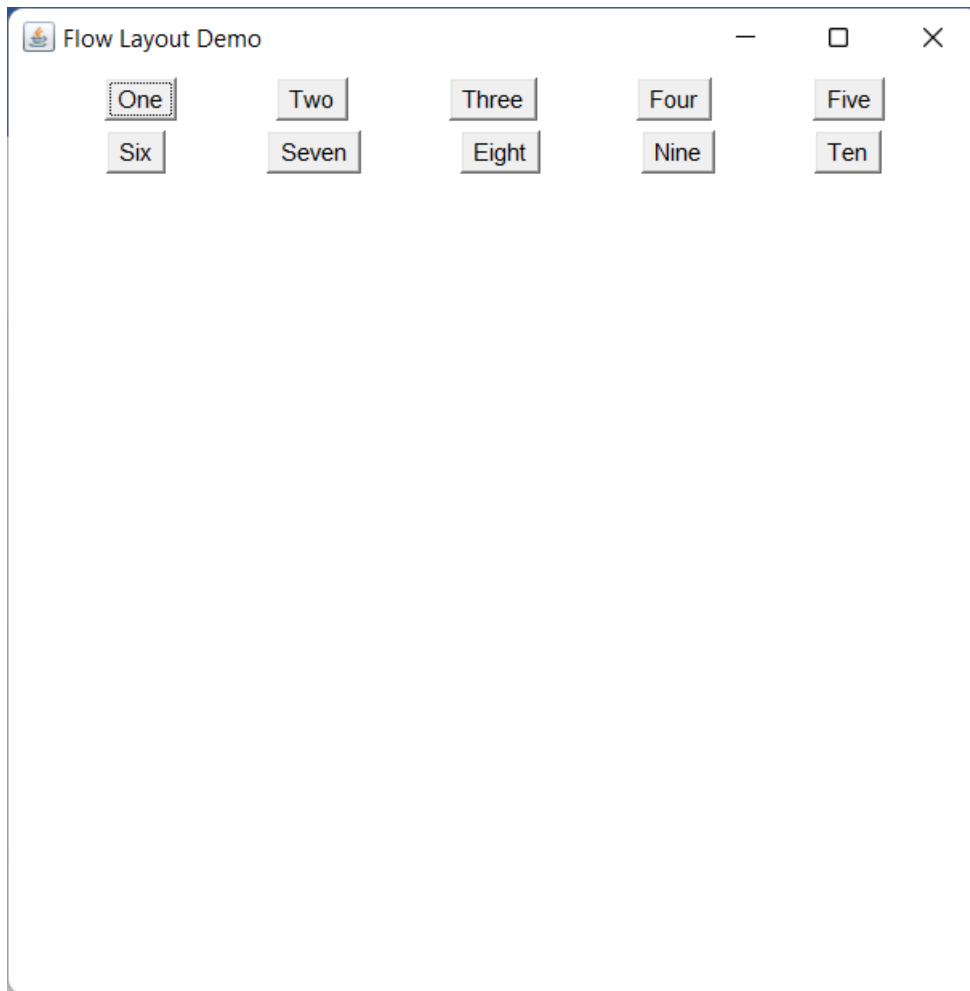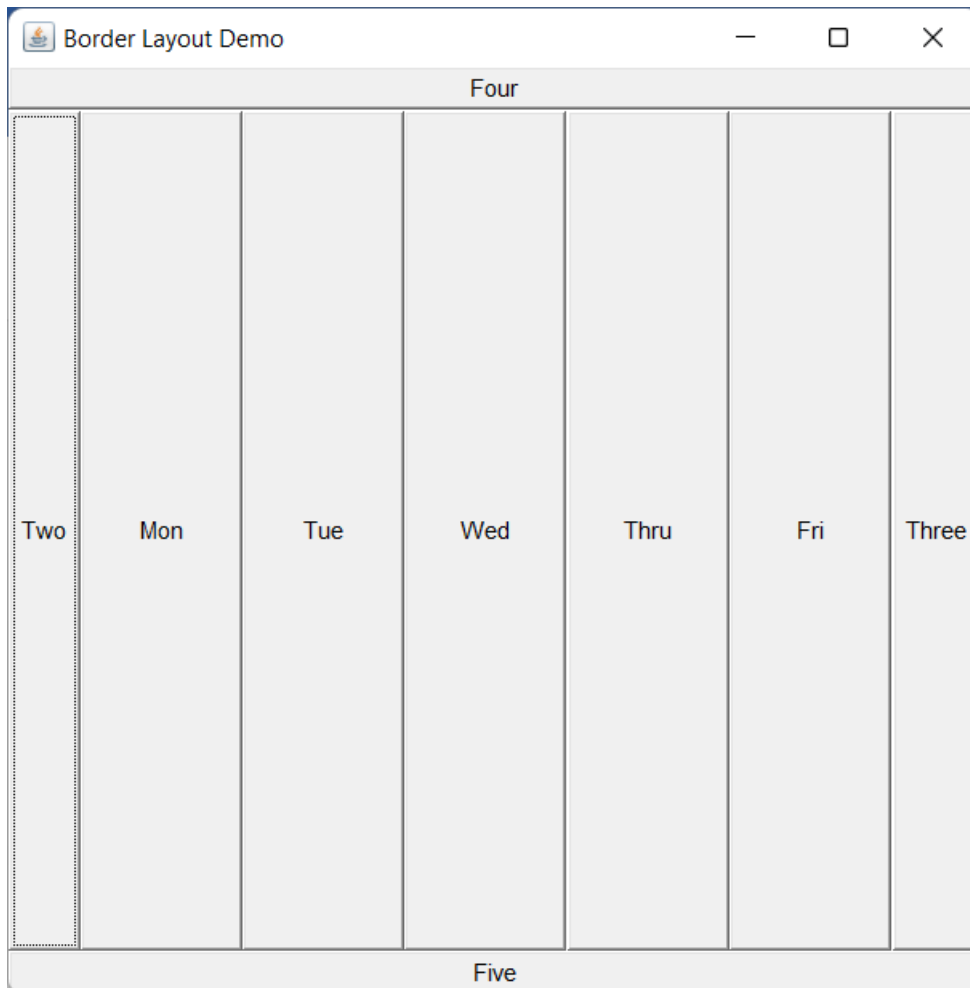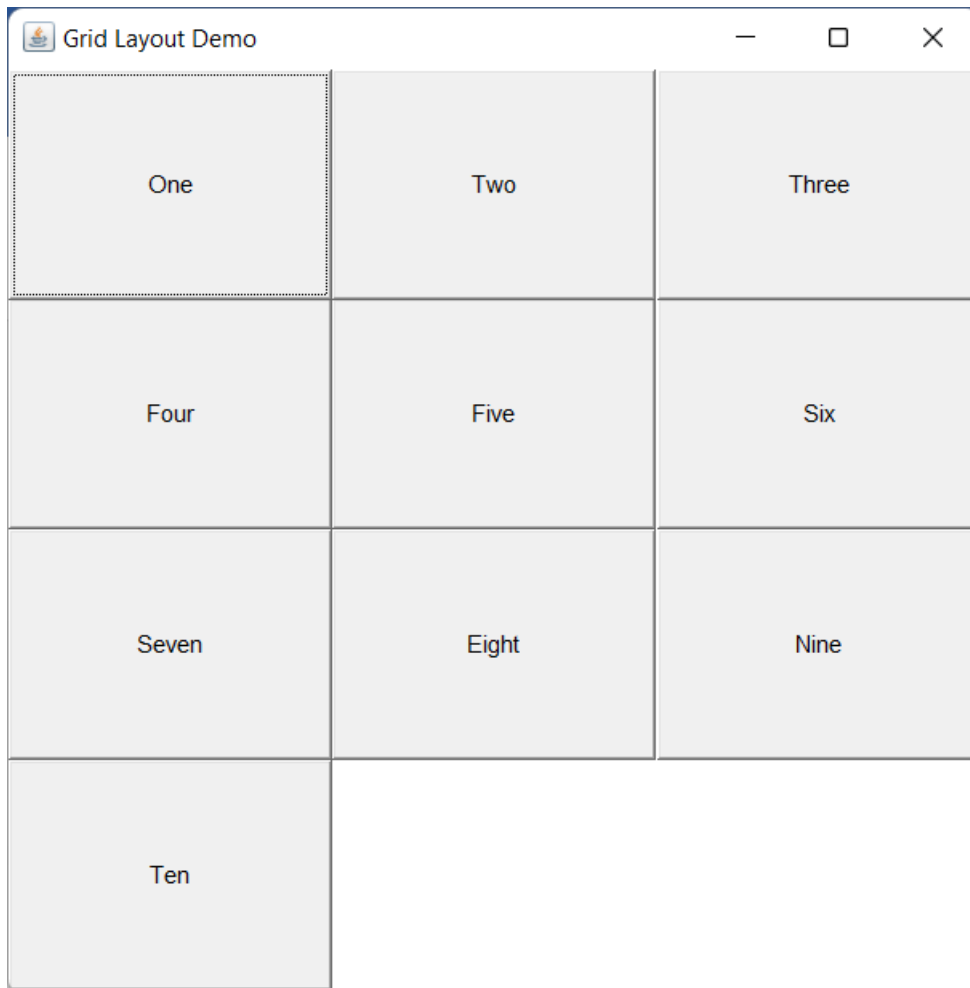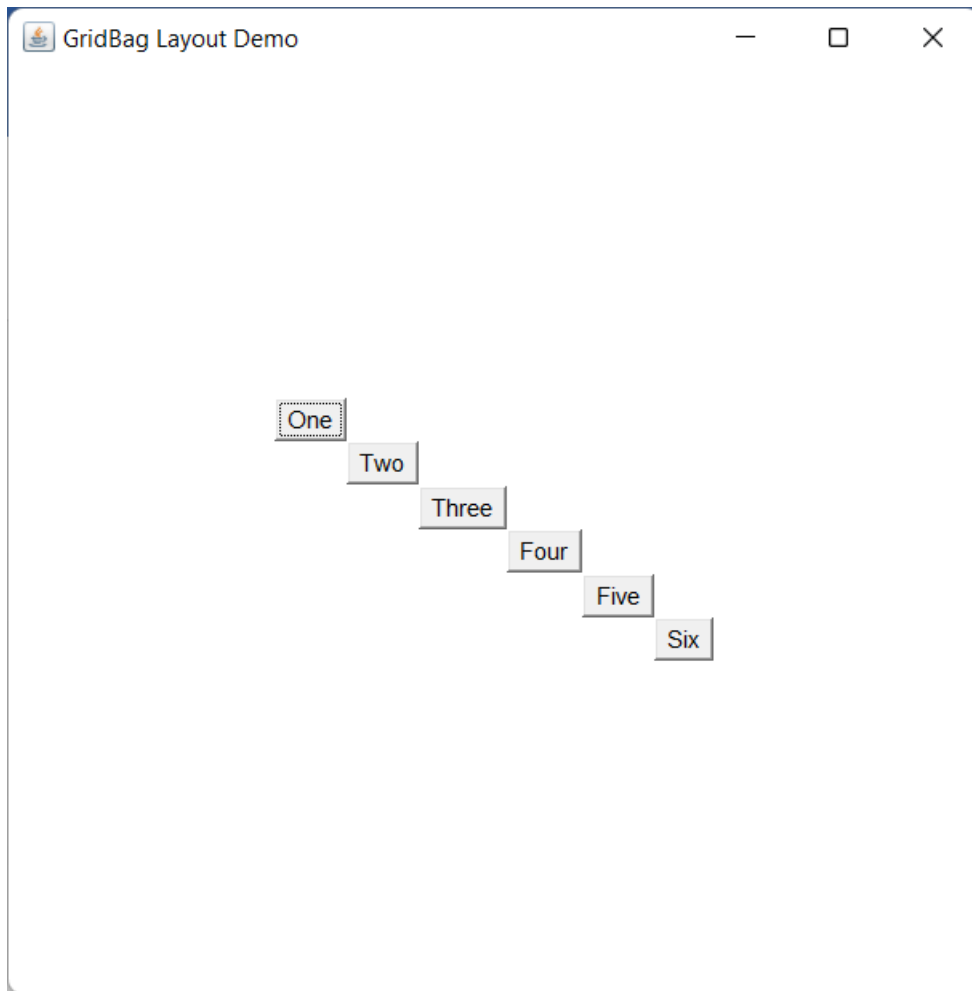
OUTPUT :

1. Flow Layout :

2. Border Layout(With a Panel in Centre) :

3. Grid Layout :

4. GridBag Layout :

5. Card Layout :

a)

b)