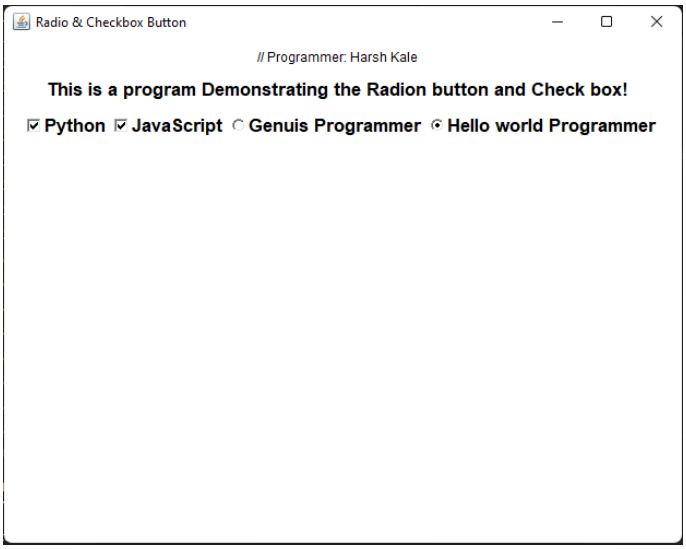
Practical 1

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Design an application to demonstrate the Radio Button and Check box.
import java.awt.*;
class PracticalNo_1Q1 extends Frame{
   public PracticalNo_1Q1(){
      Frame myFrame = new Frame("Radion Button & Checkbox");
      myFrame.setLayout(new FlowLayout());
      myFrame.setTitle("Radio & Checkbox Button");
      myFrame.setSize(500, 500);
      myFrame.setVisible(true);
      myFrame.setResizable(true);
      Label infoOfProgrammer = new Label("// Programmer: Harsh Kale");
      Font myFont = new Font("Lucida Console", Font.BOLD, 17);
      Font myNewFont = new Font("Arial", Font.BOLD, 17);
      Label myLable = new Label("This is a program Demonstrating the Radion button and Check box!");
      myLable.setFont(myFont);
      Checkbox myCheckboxOne = new Checkbox("Python", true);
      myCheckboxOne.setFont(myNewFont);
      Checkbox myCheckboxTwo = new Checkbox("JavaScript", true);
      myCheckboxTwo.setFont(myNewFont);
      CheckboxGroup myCheckboxGroup = new CheckboxGroup();
      Checkbox radioBtnOne = new Checkbox("Genuis Programmer", true, myCheckboxGroup);
      radioBtnOne.setFont(myNewFont);
      Checkbox radioBtnTwo = new Checkbox("Hello world Programmer", true, myCheckboxGroup);
      radioBtnTwo.setFont(myNewFont);       Component[] myObjects = {infoOfProgrammer, myLable,
myCheckboxOne, myCheckboxTwo, radioBtnOne, radioBtnTwo};
      for(int i = 0; i < myObjects.length; i++){
```

```
            myFrame.add(myObjects[i]);
        }
    }

    public static void main(String[] args) {
        new PracticalNo_1Q1();
    }
}
```

Output:

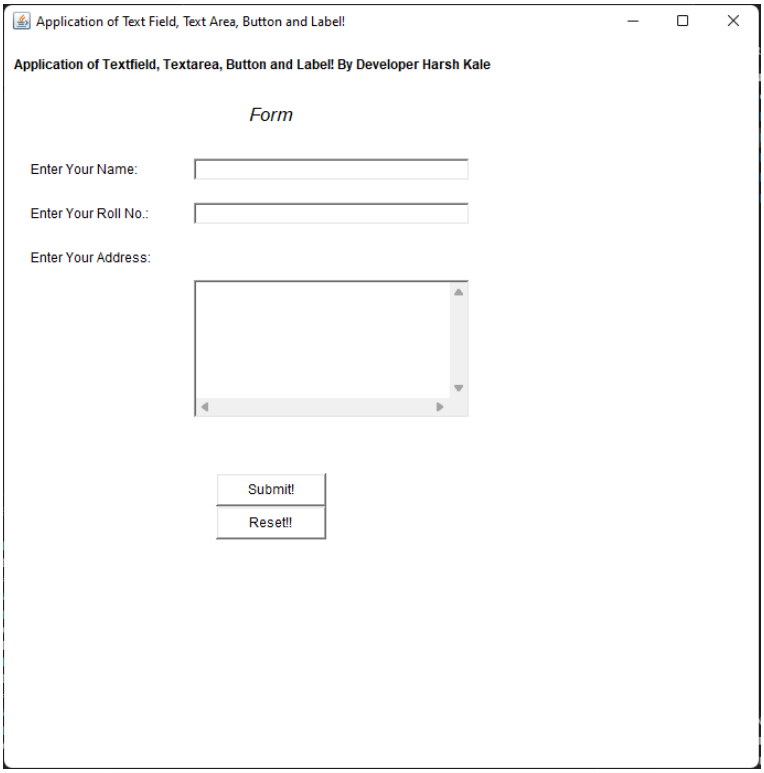



```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Design an application to create a form with the use of text field, text area, button and label.

import java.awt.*;

public class PracticalNo_1Q2 extends Frame {
    public PracticalNo_1Q2(){
```

```
        setLayout(new FlowLayout());
        setTitle("Application of Text Field, Text Area, Button and Label!");
        setSize(700, 700);
        setVisible(true);
        Font ff1 = new Font("Times New Roman", Font.BOLD, 12);
        Font ff2 = new Font("Arial", Font.ITALIC, 17);
        Label label1 = new Label("Application of Textfield, Textarea, Button and Label! By Developer Harsh
Kale");
        label1.setFont(ff1);
        label1.setBounds(15, 40, 450, 30);
        Label label2 = new Label("Form", Label.CENTER);
        label2.setFont(ff2);
        label2.setBounds(210, 90, 80, 20);
        Label ln = new Label("Enter Your Name: ", Label.LEFT);
        TextField tfn = new TextField();
        ln.setBounds(30, 140, 110, 20);
        tfn.setBounds(180, 140, 250, 20);
        Label rollno = new Label("Enter Your Roll No.: ", Label.LEFT);
        TextField tfrn = new TextField();
        rollno.setBounds(30, 180, 150, 20);
        tfrn.setBounds(180, 180, 250, 20);
        Label addrs = new Label("Enter Your Address: ", Label.LEFT);
        TextArea taddress = new TextArea();
        addrs.setBounds(30, 220, 170, 20);
        taddress.setBounds(180, 250, 250, 125);
        Button submit = new Button("Submit!");
        Button reset = new Button("Reset!!");
        submit.setBounds(200, 425, 100, 30);
        reset.setBounds(200, 455, 100, 30);
        add(label1);
```

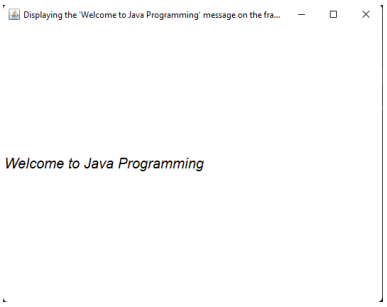
```
        add(label2);
        add(ln);
        add(rollno);
        add(tfn);
        add(tfrn);
        add(addrs);
        add(taddress);
        add(submit);
        add(reset);
    }
    public static void main(String[] args) {
        System.out.println("Hello, world Programmer! Harsh Moreshwar Kale");
        new PracticalNo_1Q2();
    }
}
```

Output:



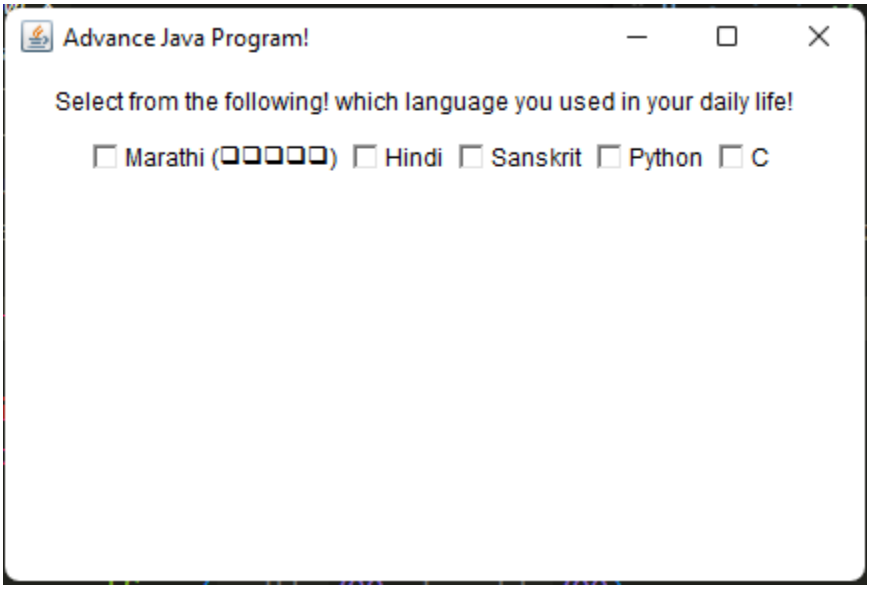
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Develop a program using Label to display the message "Welcome to Java Programming".

import java.awt.*;

public class PracticalNo_1Q3 extends Frame {
   public PracticalNo_1Q3(){
      setTitle("Displaying the \'Welcome to Java Programming\' message on the frame!");
      setSize(700, 700);
      setVisible(true);

      Font ff = new Font("Arial", Font.ITALIC, 20);

      Label l = new Label("Welcome to Java Programming", Label.LEFT);
      l.setFont(ff);
      add(l);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale!");
      new PracticalNo_1Q3();
   }
}
```

Output:



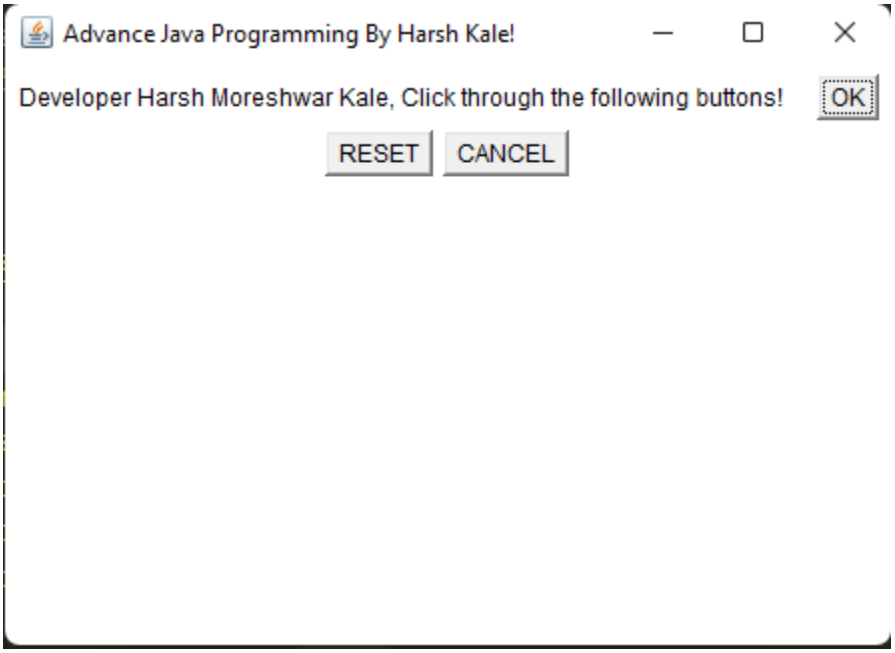
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 4:
// Develop a Program to Select Multiple Languages known to User.

import java.awt.*;

public class PracticalNo_1Q4 extends Frame{
   public PracticalNo_1Q4(){
      setLayout(new FlowLayout());
      setTitle("Advance Java Program!");
      setSize(700, 700);
      setVisible(true);

      Label l = new Label("Select from the following! which language you used in your daily life!");

      Checkbox cmr = new Checkbox("Marathi (मराठी)");
      Checkbox chi = new Checkbox("Hindi");
      Checkbox csk = new Checkbox("Sanskrit");
      Checkbox cpy = new Checkbox("Python");
      Checkbox cc = new Checkbox("C");

      add(l);
      add(cmr);
      add(chi);
      add(csk);
      add(cpy);
      add(cc);
   }
   public static void main(String[] args) {
```

```
        System.out.println("Developer Harsh Moreshwar Kale");
        new PracticalNo_1Q4();
    }
}
```



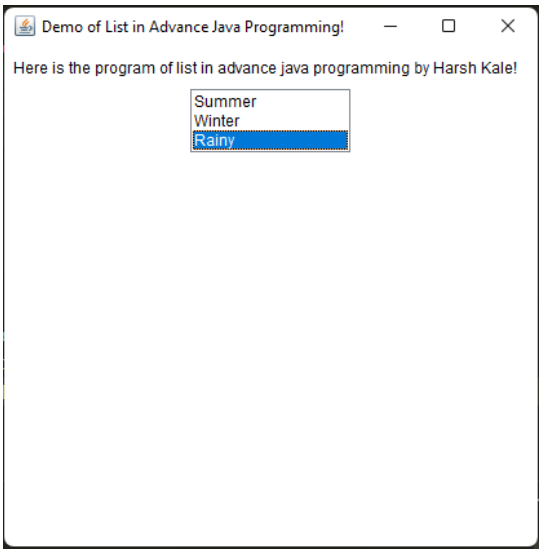

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 5:
// Develop a Program to Create 3 buttons with caption ok, reset, cancel.

import java.awt.*;

public class PracticalNo_1Q5 extends Frame{
    public PracticalNo_1Q5(){
        setLayout(new FlowLayout());
        setTitle("Advance Java Programming By Harsh Kale!");
        setSize(700, 700);
        setVisible(true);

        Label l = new Label("Developer Harsh Moreshwar Kale, Click through the following buttons!");
```

```
        Button ok = new Button("OK");
        Button reset = new Button("RESET");
        Button cancel = new Button("CANCEL");

        add(l);
        add(ok);
        add(reset);
        add(cancel);
    }
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale!");
        new PracticalNo_1Q5();
    }
}
```



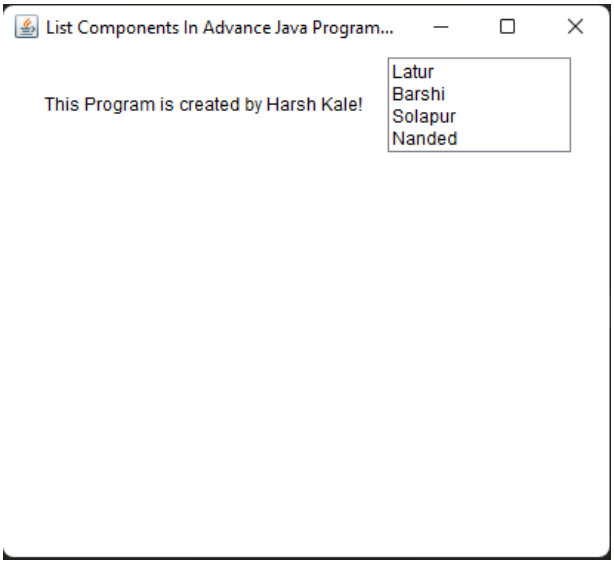
Practical 2

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a java program to show following output in list!
import java.awt.*;
public class PracticalNo_2Q1 extends Frame {
   public PracticalNo_2Q1(){
      setLayout(new FlowLayout());
      setTitle("Demo of List in Advance Java Programming!");
      setSize(700, 700);
      setVisible(true);
      Label l = new Label("Here is the program of list in advance java programming by Harsh Kale!");
      List list = new List(3, false);
      list.add("Summer");
      list.add("Winter");
      list.add("Rainy");
      add(l);
      add(list);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale!");
      new PracticalNo_2Q1();
   }
}
```



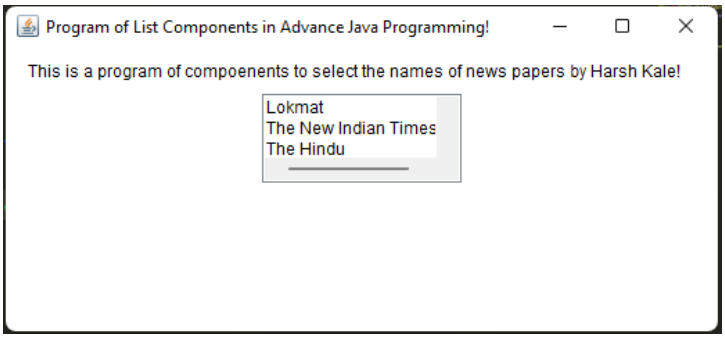

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Develop an application using list components to add names of 10 different cities.abstract
import java.awt.*;
public class PracticalNo_2Q2 extends Frame {
   public PracticalNo_2Q2(){
      setLayout(new FlowLayout());
      setTitle("List Components In Advance Java Programming");
      setSize(700, 700);
      setVisible(true);
      Label l = new Label("This Program is created by Harsh Kale!");
      List list = new List(4, false);
      list.add("Latur");
      list.add("Barshi");
      list.add("Solapur");
      list.add("Nanded");
      add(l);
      add(list);
   }
```

```
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale");
        new PracticalNo_2Q2();
    }
}
```



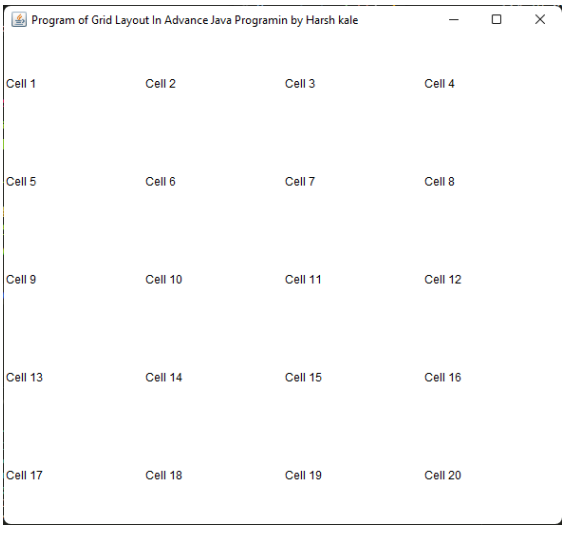

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Develop an application select multiple names of news paper.
import java.awt.*;
public class PracticalNo_2Q3 extends Frame {
    public PracticalNo_2Q3(){
        setLayout(new FlowLayout());
        setTitle("Program of List Components in Advance Java Programming!");
        setSize(700, 700);
        setVisible(true);
        Label l = new Label("This is a program of compoenents to select the names of news papers by Harsh Kale!");
        List list = new List(4, true);
        list.add("Lokmat");
```

```
        list.add("The New Indian Times");
        list.add("The Hindu");
        list.add("Dyandeep");
        list.add("Maradhi Paper");
        add(l);
        add(list);
    }
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale");
        new PracticalNo_2Q3();
    }
}
```

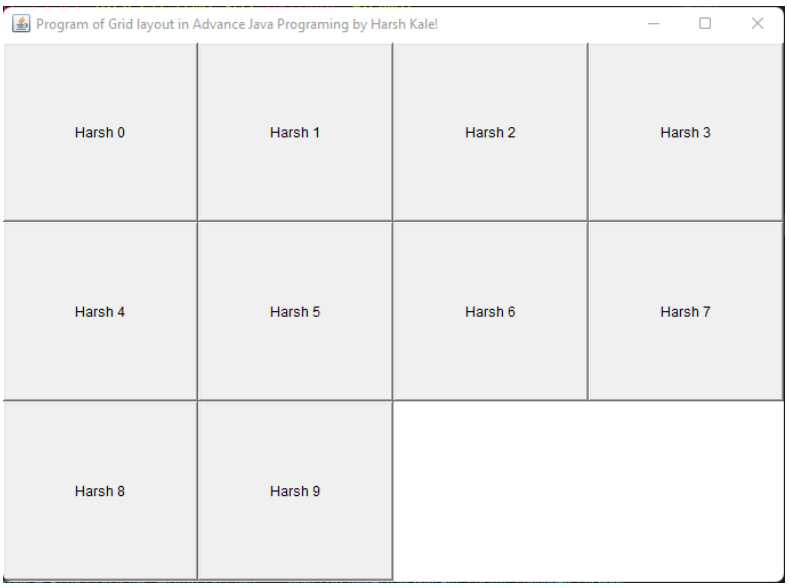


Practical 3

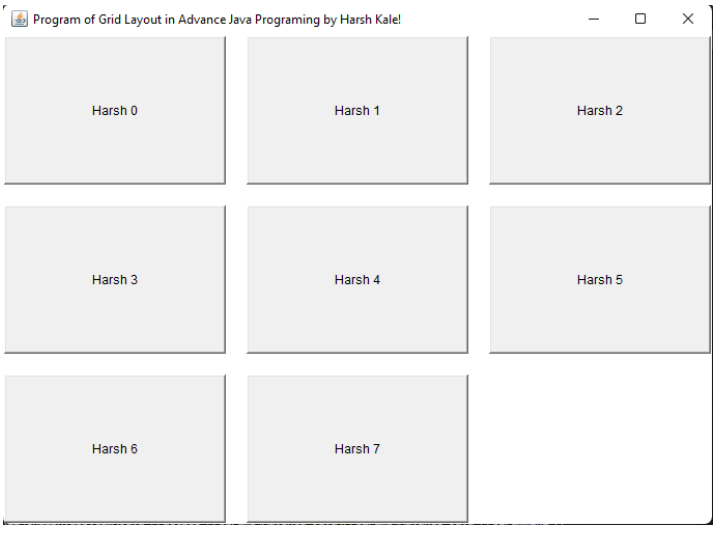
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a java program to demonstrate the use of grid layout of 5 * 5
import java.awt.*;
public class PracticalNo_3Q1 extends Frame {
   PracticalNo_3Q1(){
      setLayout(new GridLayout(5, 5));
      setTitle("Program of Grid Layout In Advance Java Programin by Harsh kale");
      setSize(700, 700);
      setVisible(true);
      for(int i = 1; i <= 20; i++){
         add(new Label("Cell " + i));
      }
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale");
      new PracticalNo_3Q1();
   }
}
```



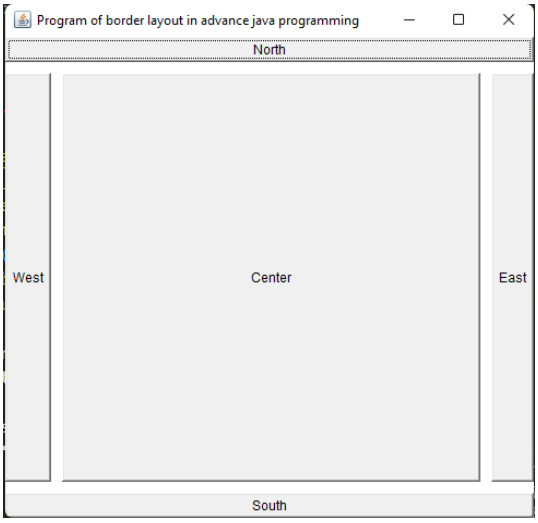
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Write a java program to display the No. of buttons from 0 to 0.
import java.awt.*;
public class PracticalNo_3Q2 extends Frame{
   PracticalNo_3Q2(){
      setLayout(new GridLayout(3, 3));
      setTitle("Program of Grid layout in Advance Java Programing by Harsh Kale!");
      setSize(700, 700);
      setVisible(true);
      for(int i = 0; i <= 9; i++){
         add(new Button("Harsh " + i));
      }
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale!");
      new PracticalNo_3Q2();
   }
}
```



```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Write a java program to display the No. of buttons from 0 to 0.
import java.awt.*;
public class PracticalNo_3Q3 extends Frame{
   PracticalNo_3Q3(){
      setLayout(new GridLayout(3, 2, 20, 20));
      setTitle("Program of Grid Layout in Advance Java Programing by Harsh Kale!");
      setSize(700, 700);
      setVisible(true);
      for(int i = 0; i <= 7; i++){
         Button btn = new Button("Harsh " + i);
         add(btn);
      }
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale!");
      new PracticalNo_3Q3();
   }
}
```



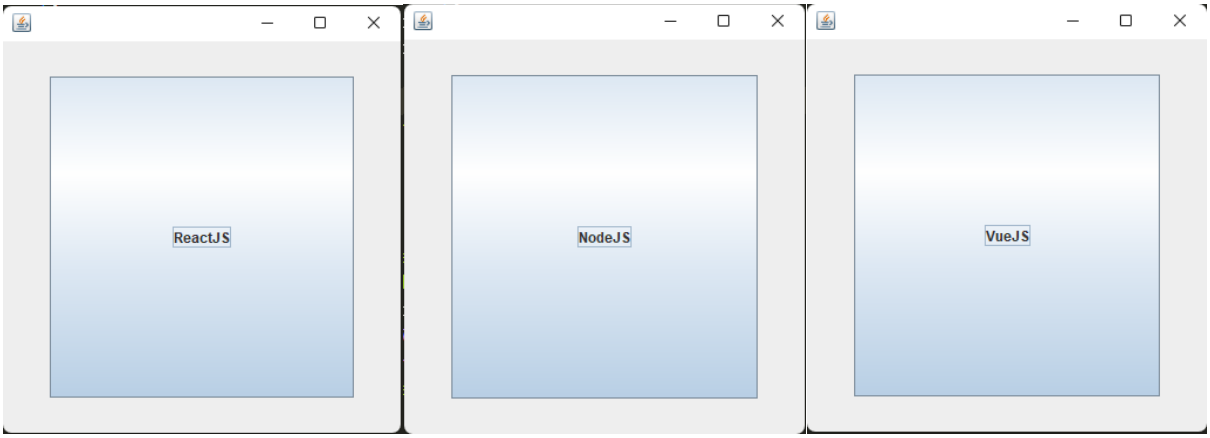
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 4:
// Write a java program to display the use of border layout.!
import java.awt.*;
public class PracticalNo_3Q4 extends Frame{
   PracticalNo_3Q4(){
      setTitle("Program of border layout in advance java programming");
      setSize(700, 700);
      setVisible(true);
      setLayout(new BorderLayout(10, 10));
      Button northButton = new Button("North");
      add(northButton, BorderLayout.NORTH);
      Button southButton = new Button("South");
      add(southButton, BorderLayout.SOUTH);
      Button eastButton = new Button("East");       add(eastButton, BorderLayout.EAST);
      Button wesButton = new Button("West");       add(wesButton, BorderLayout.WEST);
      Button centerButton = new Button("Center");
      add(centerButton, BorderLayout.CENTER);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale!");
      new PracticalNo_3Q4();
   }
}
```


Program of border layout in advance java programming
North
West
Center
East
South

Practical 4

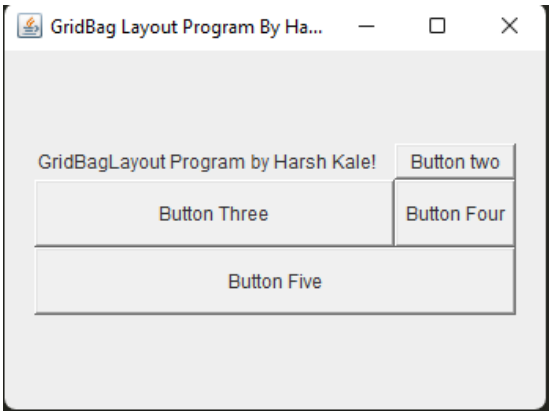
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write the Output of the following program!
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class PracticalNo_4Q1 extends JFrame implements ActionListener{
   CardLayout card;
   JButton btn1, btn2, btn3;
   Container c;
   PracticalNo_4Q1(){
      c = getContentPane();
      card = new CardLayout(40, 30);
      c.setLayout(card);
      btn1 = new JButton("ReactJS");
      btn2 = new JButton("NodeJS");
      btn3 = new JButton("VueJS");
      btn1.addActionListener(this);
      btn2.addActionListener(this);
      btn3.addActionListener(this);
      c.add("A", btn1);
      c.add("B", btn2);
      c.add("C", btn3);
   }
   public void actionPerformed(ActionEvent e){
      card.next(c);
   }
   public static void main(String[] args) {
```

```
        System.out.println("Developer Harsh Moreshwar Kale!");
        PracticalNo_4Q1 p = new PracticalNo_4Q1();
        p.setSize(700, 700);
        p.setVisible(true);
        p.setDefaultCloseOperation(EXIT_ON_CLOSE);
    }
}
```



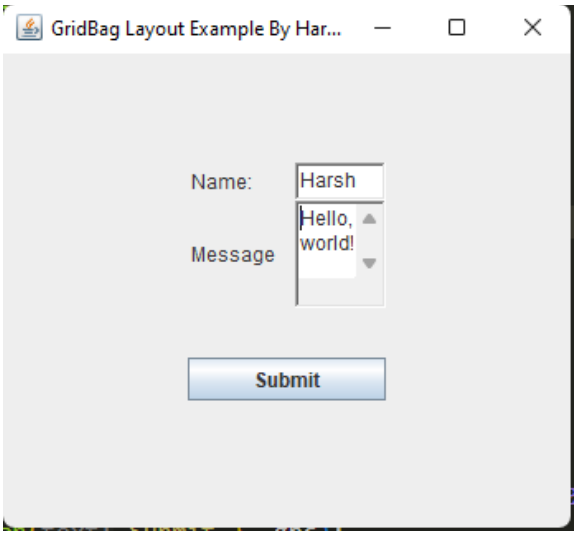

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Write a java program to display the output of the following code.
import java.awt.*;
import javax.swing.*;
public class PracticalNo_4Q2 extends JFrame {
    PracticalNo_4Q2() {
        Label l = new Label("GridBagLayout Program by Harsh Kale!");
        add(l);
        GridBagLayout grid = new GridBagLayout();       GridBagConstraints gbc = new GridBagConstraints();
        setLayout(grid);
        setTitle("GridBag Layout Program By Harsh Kale");
        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(700, 700);
    setPreferredSize(getSize());
    setVisible(true);
    setDefaultCloseOperation(EXIT_ON_CLOSE);
}

public static void main(String[] args) {
    System.out.println("Developer Harsh MOreshwar Kale!");
    new PracticalNo_4Q2();    }}
```



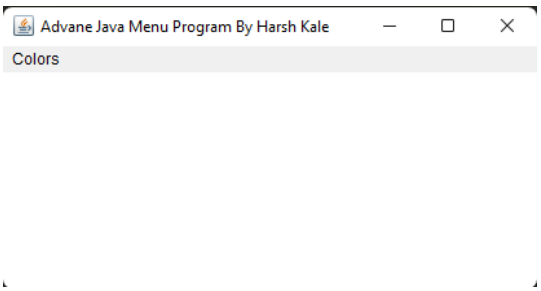

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Write a java program to display following output of GridBagLayout.

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

public class PracticalNo_4Q3 extends JFrame {
   PracticalNo_4Q3(){
      setSize(700, 700);
      setPreferredSize(getSize());
      setVisible(true);
      setDefaultCloseOperation(EXIT_ON_CLOSE);
      GridBagLayout grid = new GridBagLayout();
      GridBagConstraints gbc = new GridBagConstraints();
      setLayout(grid);
      setTitle("GridBag Layout Example By Harsh Kale");
      gbc.fill = GridBagConstraints.HORIZONTAL;
      gbc.gridx = 0;        gbc.gridy = 0;       this.add(new Label("Name: "), gbc);
      gbc.gridx = 1;
      gbc.gridy =  0;
```

```
        this.add(new TextField("Harsh", 1), gbc);
        gbc.fill = GridBagConstraints.HORIZONTAL;
        gbc.gridx = 0;
        gbc.gridy = 1;
        gbc.weightx=0;
        gbc.weighty=0;
        this.add(new Label("Message"), gbc);
        gbc.gridx = 1; gbc.gridy = 1;
        this.add(new TextArea(3, 5), gbc);
        gbc.gridx = 0;
        gbc.gridy = 2;
        gbc.fill = GridBagConstraints.HORIZONTAL;
        gbc.gridwidth = 2;
        gbc.gridheight=1;
        gbc.insets= new Insets (30, 0, 10, 0); this.add(new JButton("Submit"), gbc);
    }
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale!");
        new PracticalNo_4Q3();
    }
}
```



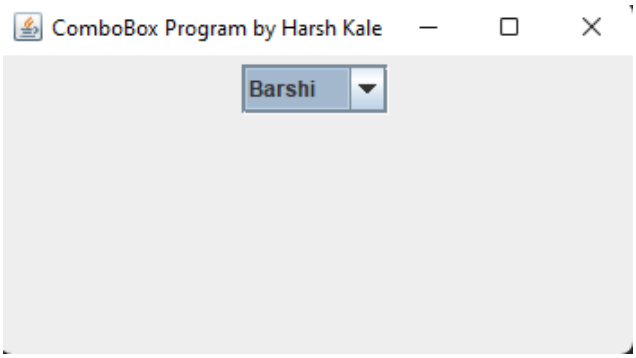
Practical 5

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a java program to create menu of different colors and disable menu item for Black Color.
import java.awt.*;
public class PracticalNo_5Q1 extends Frame{
   MenuBar mb;
   Menu colorNameMenu;
   MenuItem redItem, orangItem, blueItem, blackItem;
   PracticalNo_5Q1(){
      setTitle("Advane Java Menu Program By Harsh Kale");
      setSize(700, 700);
      mb = new MenuBar();
      colorNameMenu = new Menu("Colors");
      redItem = new MenuItem("Red");
      orangItem = new MenuItem("Orange");
      blueItem = new MenuItem("Blue");
      blackItem = new MenuItem("Black");
      blackItem.setEnabled(false);
      colorNameMenu.add(redItem);
      colorNameMenu.add(orangItem);
      colorNameMenu.add(blueItem);
      colorNameMenu.add(blackItem);
      mb.add(colorNameMenu);
      setMenuBar(mb);
      setVisible(true);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale");       new PracticalNo_5Q1();    }}
```




```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Find an error and correct it also display the output after corrections.
import java.awt.*;
import java.awt.event.KeyEvent;
public class PracticalNo_5Q2 extends Frame{
   MenuBar mb;
   MenuItem m1, m2, m3;
   Menu mn;
   MenuShortcut ms;
   PracticalNo_5Q2(){
      setTitle("Menubar Program By Harsh Kale!");
      setSize(700, 700);       setLayout(null);

      ms = new MenuShortcut(KeyEvent.VK_X);
      mn = new Menu("File");
      mb = new MenuBar();
      m1 = new MenuItem("Open with VS Code");
      m2 = new MenuItem("Auto Save");
      m3 = new MenuItem("Harsh Kale");
      mn.add(m1);
      mn.add(m2);
      mn.addSeparator();
      mn.add(m3);
```

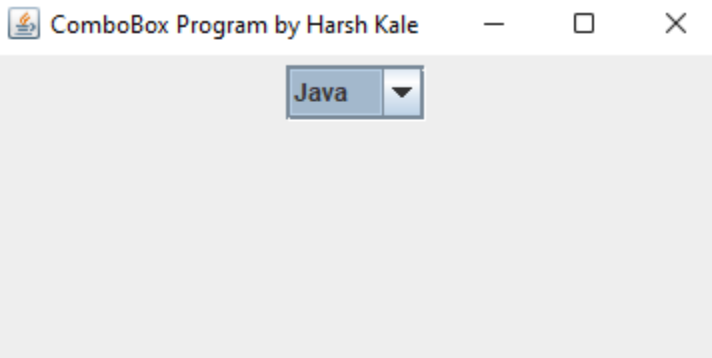
```
        mb.add(mn);
        setMenuBar(mb);
        setVisible(true);
    }
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale");
        new PracticalNo_5Q2();
    }
}
```



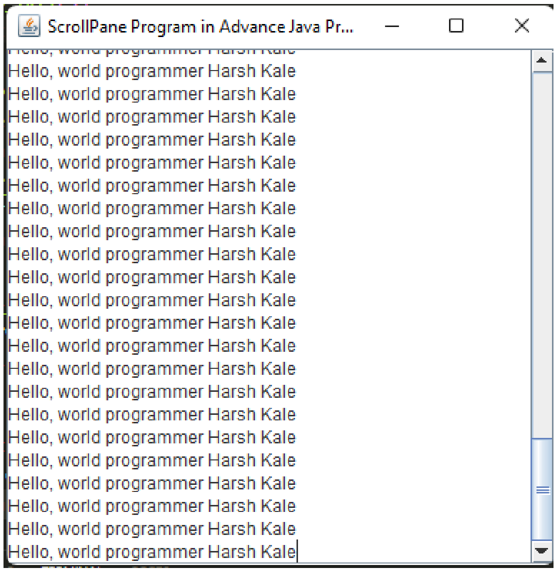
Practical 6

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a Program for Following output!
import java.awt.FlowLayout;
import javax.swing.*;
public class PracticalNo_6Q1 extends JFrame {
   PracticalNo_6Q1(){
      super("ComboBox Program by Harsh Kale");
      setSize(700, 700);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      String cities[] = {"Solapur", "Barshi", "Latur", "Banglore"};
      JComboBox<String> comboBox = new JComboBox<>(cities);
      JScrollPane scrollPane = new JScrollPane(comboBox);
      add(scrollPane);
      setVisible(true);
      setLayout(new FlowLayout());
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Kale");
      new PracticalNo_6Q1();
   }
}
```

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Program using JComboBox to select different states of India or programming languages.

import java.awt.*;
import javax.swing.JComboBox;
import javax.swing.JFrame;
import javax.swing.JScrollPane;

public class PracticalNo_6Q2 extends JFrame{
   PracticalNo_6Q2(){
      super("ComboBox Program by Harsh Kale");
      setSize(700, 700);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      String cities[] = {"C", "C++", "C#", "Java", "Python", "R"};
      JComboBox<String> comboBox = new JComboBox<>(cities);
      JScrollPane scrollPane = new JScrollPane(comboBox);
      add(scrollPane);
      setVisible(true);
      setLayout(new FlowLayout());
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Kale");
      new PracticalNo_6Q2();
   }
}
```




```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Program using JScrollPane in Advance Java Programming.
import javax.swing.*;import java.awt.*;
public class PracticalNo_6Q3 extends JFrame {
   PracticalNo_6Q3(){
      super("ScrollPane Program in Advance Java Programming By Harsh Kale!");
      setLayout(new BorderLayout());
      setSize(400, 400);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      JTextArea t = new JTextArea();
      for(int i = 0; i < 100; i++){
         t.append("Hello, world programmer Harsh Kale \n");
      }
      JScrollPane scrollPane = new JScrollPane(t);
      add(scrollPane, BorderLayout.CENTER);
      setVisible(true);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Kale");
      new PracticalNo_6Q3();
   }}
```


ScrollPane Program in Advance Java Pr...
Hello, world programmer Harsh Kale
Hello, world programmer Harsh Kale
Hello, world programmer Harsh Kale
Hello, world programmer Harsh Kale
Hello, world programmer Harsh Kale
Hello, world programmer Harsh Kale
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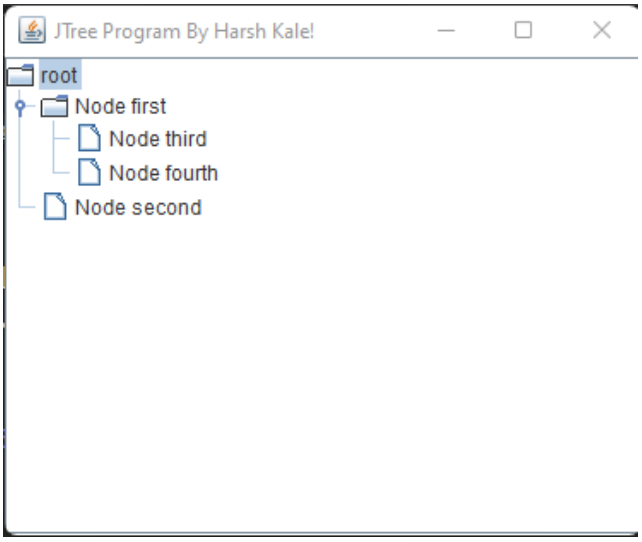
Hello, world programmer Harsh Kale

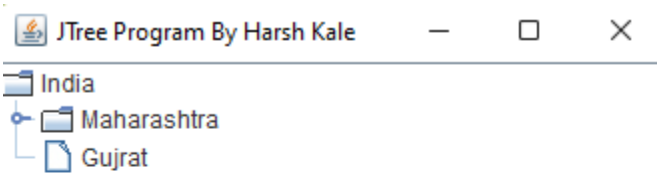
Practical 7

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a Program for JTree Component!
import javax.swing.*;
import javax.swing.tree.*;
public class PracticalNo_7Q1 extends JFrame{
   PracticalNo_7Q1(){
      setTitle("JTree Program By Harsh Kale!");
      setVisible(true);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      DefaultMutableTreeNode root = new DefaultMutableTreeNode("root");
      DefaultMutableTreeNode n1 = new DefaultMutableTreeNode("Node first");
      DefaultMutableTreeNode n2 = new DefaultMutableTreeNode("Node second");
      DefaultMutableTreeNode n3 = new DefaultMutableTreeNode("Node third");
      DefaultMutableTreeNode n4 = new DefaultMutableTreeNode("Node fourth");
      n1.add(n3);       n1.add(n4);
      root.add(n1);       root.add(n2);

      JTree tree = new JTree(root);
      JScrollPane scrollPane = new JScrollPane(tree);
      getContentPane().add(scrollPane);
      pack();

      setSize(700, 700);
   }
   public static void main(String[] args) {
      System.out.println("Developer Harsh Moreshwar Kale");
      new PracticalNo_7Q1();    }}
```




```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a Program for Following output.

import javax.swing.*;
import javax.swing.tree.*;

public class PracticalNo_7Q2 extends JFrame {
    PracticalNo_7Q2() {
        setTitle("JTree Program By Harsh Kale");
        setVisible(true);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        DefaultMutableTreeNode rootNode = new DefaultMutableTreeNode("India");
        DefaultMutableTreeNode node1 = new DefaultMutableTreeNode("Maharashtra");
        DefaultMutableTreeNode node2 = new DefaultMutableTreeNode("Gujrat");
        DefaultMutableTreeNode node11 = new DefaultMutableTreeNode("Mumbai");
        DefaultMutableTreeNode node12 = new DefaultMutableTreeNode("Pune");
        DefaultMutableTreeNode node13 = new DefaultMutableTreeNode("Nashik");
```

```
        DefaultMutableTreeNode node14 = new DefaultMutableTreeNode("Nagpur");
        DefaultMutableTreeNode node15 = new DefaultMutableTreeNode("Latur");
        node1.add(node11);
        node1.add(node12);
        node1.add(node13);
        node1.add(node14);
        node1.add(node15);
        rootNode.add(node1);
        rootNode.add(node2);
        JTree tree = new JTree(rootNode);
        JScrollPane scrollPane = new JScrollPane(tree);
        getContentPane().add(scrollPane);
        pack();
    }

    public static void main(String[] args) {
        System.out.println("Developer Harsh Kale!");
        new PracticalNo_7Q2();
    }
}
```



// Programmer: Harsh Moreshwar Kale

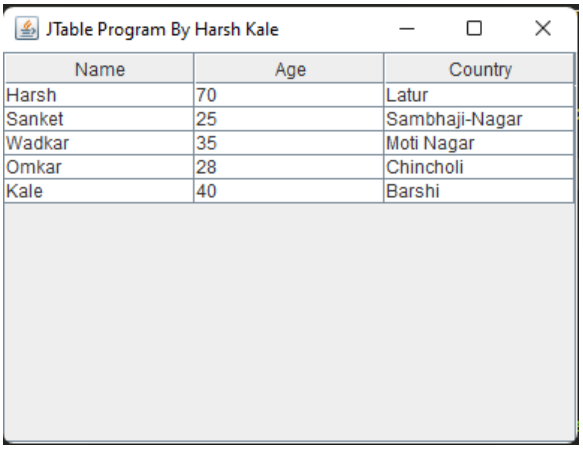
// Created Date: 13/09/2023

```
// Question 3:
// Program to show root directory and its sub folder of your system.
import java.awt.*;
import java.io.*;
import javax.swing.*;
import javax.swing.tree.*;
public class PracticalNo_7Q3 {
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("JTree Program");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         File rootDir = new File("D:/");
         DefaultMutableTreeNode root = new DefaultMutableTreeNode(rootDir);
         DefaultTreeModel treeModel = new DefaultTreeModel(root);          addSubfolders(root, rootDir);
         JTree tree = new JTree(treeModel);
         tree.setPreferredSize(new Dimension(300, 200));
         frame.add(tree, BorderLayout.CENTER);
         frame.pack(); // Use pack() to set the frame size based on its contents
         frame.setVisible(true);
      });
   }
   private static void addSubfolders(DefaultMutableTreeNode parent, File dir) {
      File[] subDirs = dir.listFiles();
      if (subDirs != null) {
         for (File subDir : subDirs) {
            if (subDir.isDirectory()) {
               DefaultMutableTreeNode child = new DefaultMutableTreeNode(subDir);
               parent.add(child);
               addSubfolders(child, subDir);
            }      }      }   }}
```

Practical 8

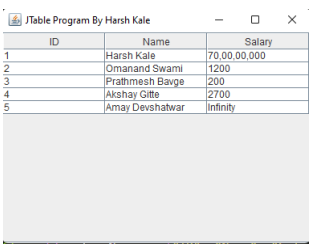
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Develop a program to demonstrate the use of JTable.
import javax.swing.*;
import javax.swing.table.DefaultTableModel;
import java.awt.*;
public class PracticalNo_8Q1 {
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("JTable Program By Harsh Kale");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         // Create sample data for the table
         String[] columnNames = {"Name", "Age", "Country"};
         Object[][] data = {
            {"Harsh", 70, "Latur"},
            {"Sanket", 25, "Sambhaji-Nagar"},
            {"Wadkar", 35, "Moti Nagar"},
            {"Omkar", 28, "Chincholi"},
            {"Kale", 40, "Barshi"}
         };
         // Create a DefaultTableModel
         DefaultTableModel model = new DefaultTableModel(data, columnNames);
         // Create a JTable with the model
         JTable table = new JTable(model);
         // Create a JScrollPane to add the table to
         JScrollPane scrollPane = new JScrollPane(table);
         // Add the scroll pane to the frame
         frame.add(scrollPane, BorderLayout.CENTER);
```

```
            frame.pack();
            frame.setSize(400, 300);
            frame.setVisible(true);
        });
    }
}
```



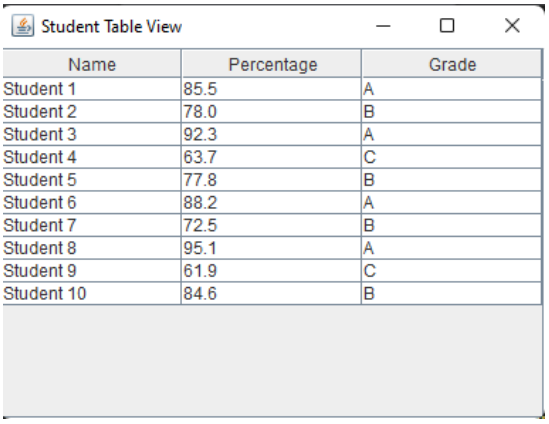

```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Program to show root directory and its sub folder of your system.
import javax.swing.JFrame;
import javax.swing.JScrollPane;
import javax.swing.JTable;
import javax.swing.SwingUtilities;
import javax.swing.table.DefaultTableModel;
import java.awt.*;
public class PracticalNo_8Q2 {
    public static void main(String[] args) {
        System.out.println("Developer Harsh Moreshwar Kale");
        SwingUtilities.invokeLater(() -> {
            JFrame frame = new JFrame("JTable Program By Harsh Kale");
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
        // Create sample data for the table
        String[] columnNames = {"ID", "Name", "Salary"};
        Object[][] data = {
            {1, "Harsh Kale", "70,00,00,000"},
            {2, "Omanand Swami", "1200"},
            {3, "Prathmesh Bavge", "200"},
            {4, "Akshay Gitte", "2700"},
            {5, "Amay Devshatwar", "Infinity"}
        };
        // Create a DefaultTableModel
        DefaultTableModel model = new DefaultTableModel(data, columnNames);

        // Create a JTable with the model
        JTable table = new JTable(model);

        // Create a JScrollPane to add the table to
        JScrollPane scrollPane = new JScrollPane(table);

        // Add the scroll pane to the frame
        frame.add(scrollPane, BorderLayout.CENTER);

        frame.pack();
        frame.setSize(400, 300);
        frame.setVisible(true);
    });
}}
```



```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Program to show table view of 10 students. (Name, Percentage, Grade).
import javax.swing.*;
import javax.swing.table.DefaultTableModel;
import java.awt.*;
public class PracticalNo_8Q3 {
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("Student Table View");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         // Define column names
         String[] columnNames = {"Name", "Percentage", "Grade"};
         // Create sample data for 10 students
         Object[][] data = {
            {"Student 1", 85.5, "A"},
            {"Student 2", 78.0, "B"},
            {"Student 3", 92.3, "A"},
            {"Student 4", 63.7, "C"},
            {"Student 5", 77.8, "B"},
            {"Student 6", 88.2, "A"},
            {"Student 7", 72.5, "B"},
            {"Student 8", 95.1, "A"},
            {"Student 9", 61.9, "C"},
            {"Student 10", 84.6, "B"}          };

         // Create a DefaultTableModel
         DefaultTableModel model = new DefaultTableModel(data, columnNames);
         // Create a JTable with the model
```

```
        JTable table = new JTable(model);
        // Create a JScrollPane to add the table to
        JScrollPane scrollPane = new JScrollPane(table);
        // Add the scroll pane to the frame
        frame.add(scrollPane, BorderLayout.CENTER);
        frame.pack();
        frame.setSize(400, 300);
        frame.setVisible(true);
      });
  }
}
```

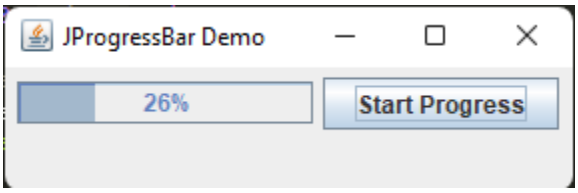


Name	Percentage	Grade
Student 1	85.5	A
Student 2	78.0	B
Student 3	92.3	A
Student 4	63.7	C
Student 5	77.8	B
Student 6	88.2	A
Student 7	72.5	B
Student 8	95.1	A
Student 9	61.9	C
Student 10	84.6	B

Practical 9

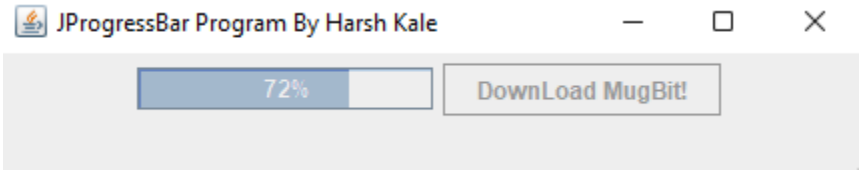
```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 1:
// Write a program to launch a JProgressBar.

import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class PracticalNo_9Q1 {
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("JProgressBar By Harsh Kale!");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         frame.setSize(300, 100);
         // Create a JProgressBar
         JProgressBar progressBar = new JProgressBar(0, 100);
         progressBar.setStringPainted(true);
         // Create a JButton to start progress
         JButton startButton = new JButton("Start Progress");
         // ActionListener for the start button
         startButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
               // Simulate a task that takes some time
               Thread taskThread = new Thread(new Runnable() {
                  public void run() {
                     for (int i = 0; i <= 100; i++) {
                        final int progressValue = i;
                        SwingUtilities.invokeLater(new Runnable() {
                           public void run() {
```

```
                    progressBar.setValue(progressValue);
                }
            });
            try {
                Thread.sleep(100); // Simulate some work
            } catch (InterruptedException ex) {
                ex.printStackTrace();
            }
        }
    }
});
taskThread.start();
}
});
JPanel panel = new JPanel();
panel.add(progressBar);
panel.add(startButton);
frame.add(panel);
frame.setVisible(true);
});
}
}
```



```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 2:
// Develop a Program to Demonstrate the use of JProgressBar.
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class PracticalNo_9Q2 {
   private static JProgressBar progressBar;
   private static JButton startButton;
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("JProgressBar Program By Harsh Kale");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         frame.setSize(300, 100);
         // Create a JProgressBar
         progressBar = new JProgressBar(0, 100);
         progressBar.setStringPainted(true);
         // Create a JButton to start progress
         startButton = new JButton("DownLoad MugBit!");
         startButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
               startProgress();
            }          });
         JPanel panel = new JPanel();
         panel.add(progressBar);
         panel.add(startButton);

         frame.add(panel);
```

```
        frame.setVisible(true);
      });
   }
   private static void startProgress() {
      startButton.setEnabled(false); // Disable the button while the task is running

      SwingWorker<Void, Integer> worker = new SwingWorker<Void, Integer>() {
         @Override
         protected Void doInBackground() throws Exception {
            for (int i = 0; i <= 100; i++) {
               Thread.sleep(100); // Simulate work (100 milliseconds)
               publish(i); // Publish progress
            }
            return null;
         }
         @Override
         protected void process(java.util.List<Integer> chunks) {
            int latestProgress = chunks.get(chunks.size() - 1);
            progressBar.setValue(latestProgress); // Update progress bar
         }
         @Override          protected void done() {              progressBar.setValue(0); // Reset progress bar
            startButton.setEnabled(true); // Enable the button after the task is done
         }
      };
      worker.execute();
   }
}
```



```
// Programmer: Harsh Moreshwar Kale
// Created Date: 13/09/2023
// Question 3:
// Write a program using JProgressBar to show the progress of progressbar when user clicks on JButton.
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class PracticalNo_9Q3 {
   private static JProgressBar progressBar;
   private static JButton startButton;
   private static JButton pauseButton;
   private static SwingWorker<Void, Integer> worker;
   public static void main(String[] args) {
      SwingUtilities.invokeLater(() -> {
         JFrame frame = new JFrame("Progress Bar with Start and Pause By Harsh Kale!");
         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
         frame.setSize(300, 100);
         // Create a JProgressBar
         progressBar = new JProgressBar(0, 100);
         progressBar.setStringPainted(true);
         // Create a "Start" button
         startButton = new JButton("Download Mugbit!");
         startButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {                startProgress();
            }
         });
         // Create a "Pause" button
         pauseButton = new JButton("Pause");
         pauseButton.addActionListener(new ActionListener() {
```

```
            public void actionPerformed(ActionEvent e) {
                pauseProgress();
            }
        });
        JPanel panel = new JPanel();
        panel.add(progressBar);
        panel.add(startButton);
        panel.add(pauseButton);

        frame.add(panel);
        frame.setVisible(true);
    });
}
private static void startProgress() {
    startButton.setEnabled(false); // Disable the "Start" button while the task is running
    pauseButton.setEnabled(true); // Enable the "Pause" button
    worker = new SwingWorker<Void, Integer>() {
        @Override
        protected Void doInBackground() throws Exception {
            for (int i = 0; i <= 100; i++) {
                if (isCancelled()) {
                    break; // Exit the loop if the task is cancelled
                }
                Thread.sleep(100); // Simulate work (100 milliseconds)
                publish(i); // Publish progress
            }
            return null;
        }

        @Override
```

```
        protected void process(java.util.List<Integer> chunks) {
            int latestProgress = chunks.get(chunks.size() - 1);
            progressBar.setValue(latestProgress); // Update progress bar
        }

        @Override
        protected void done() {
            progressBar.setValue(0); // Reset progress bar
            startButton.setEnabled(true); // Enable the "Start" button
            pauseButton.setEnabled(false); // Disable the "Pause" button
        }
    };
    worker.execute();
}
private static void pauseProgress() {       if (worker != null) {
        worker.cancel(true); // Cancel the task
        startButton.setEnabled(true); // Enable the "Start" button
        pauseButton.setEnabled(false); // Disable the "Pause" button
    }
}}
```