1. Scientific calculator

import java.awt.\*;  
import java.awt.event.\*;  
import javax.swing.\*;  
import javax.swing.event.\*;  
   
class Calculator extends JFrame {  
 private final Font BIGGER\_FONT = new Font("monspaced",Font.PLAIN, 20);  
 private JTextField textfield;  
 private boolean number = true;  
 private String equalOp = "=";  
 private CalculatorOp op = new CalculatorOp();  
   
 public Calculator() {  
 textfield = new JTextField("", 12);  
 textfield.setHorizontalAlignment(JTextField.RIGHT);  
 textfield.setFont(BIGGER\_FONT);  
 ActionListener numberListener = new NumberListener();  
 String buttonOrder = "1234567890 ";  
 JPanel buttonPanel = new JPanel();  
 buttonPanel.setLayout(new GridLayout(4, 4, 4, 4));  
 for (int i = 0; i < buttonOrder.length(); i++) {  
 String key = buttonOrder.substring(i, i+1);  
 if (key.equals(" ")) {  
 buttonPanel.add(new JLabel(""));  
 } else {  
 JButton button = new JButton(key);  
 button.addActionListener(numberListener);  
 button.setFont(BIGGER\_FONT);  
 buttonPanel.add(button);  
 }  
 }  
 ActionListener operatorListener = new OperatorListener();  
 JPanel panel = new JPanel();  
 panel.setLayout(new GridLayout(4, 4, 4, 4));  
 String[] opOrder = {"+", "-", "\*", "/","=","C","sin","cos","log"};  
 for (int i = 0; i < opOrder.length; i++) {  
 JButton button = new JButton(opOrder[i]);  
 button.addActionListener(operatorListener);  
 button.setFont(BIGGER\_FONT);  
 panel.add(button);  
 }  
 JPanel pan = new JPanel();  
 pan.setLayout(new BorderLayout(4, 4));  
 pan.add(textfield, BorderLayout.NORTH );  
 pan.add(buttonPanel , BorderLayout.CENTER);  
 pan.add(panel , BorderLayout.EAST);  
 this.setContentPane(pan);  
 this.pack();  
 this.setTitle("Calculator");  
 this.setResizable(false);  
 }  
 private void action() {  
 number = true;  
 textfield.setText("");  
 equalOp = "=";  
 op.setTotal("");  
 }  
 class OperatorListener implements ActionListener {  
 public void actionPerformed(ActionEvent e) {  
 String displayText = textfield.getText();  
 if (e.getActionCommand().equals("sin"))  
 {  
 textfield.setText("" + Math.sin(Double.valueOf(displayText).doubleValue()));  
   
 }else  
 if (e.getActionCommand().equals("cos"))  
 {  
 textfield.setText("" + Math.cos(Double.valueOf(displayText).doubleValue()));  
   
 }  
 else  
 if (e.getActionCommand().equals("log"))  
 {  
 textfield.setText("" + Math.log(Double.valueOf(displayText).doubleValue()));  
   
 }  
 else if (e.getActionCommand().equals("C"))  
 {  
 textfield.setText("");  
 }  
   
 else  
 {  
 if (number)  
 {  
   
 action();  
 textfield.setText("");  
   
 }  
 else  
 {  
 number = true;  
 if (equalOp.equals("="))  
 {  
 op.setTotal(displayText);  
 }else  
 if (equalOp.equals("+"))  
 {  
 op.add(displayText);  
 }  
 else if (equalOp.equals("-"))  
 {  
 op.subtract(displayText);  
 }  
 else if (equalOp.equals("\*"))  
 {  
 op.multiply(displayText);  
 }  
 else if (equalOp.equals("/"))  
 {  
 op.divide(displayText);  
 }  
   
 textfield.setText("" + op.getTotalString());  
 equalOp = e.getActionCommand();  
 }  
 }  
 }  
 }  
 class NumberListener implements ActionListener {  
 public void actionPerformed(ActionEvent event) {  
 String digit = event.getActionCommand();  
 if (number) {  
 textfield.setText(digit);  
 number = false;  
 } else {  
 textfield.setText(textfield.getText() + digit);  
 }  
 }  
 }  
 public class CalculatorOp {  
 private int total;  
 public CalculatorOp() {  
 total = 0;  
 }  
 public String getTotalString() {  
 return ""+total;  
 }  
 public void setTotal(String n) {  
 total = convertToNumber(n);  
 }  
 public void add(String n) {  
 total += convertToNumber(n);  
 }  
 public void subtract(String n) {  
 total -= convertToNumber(n);  
 }  
 public void multiply(String n) {  
 total \*= convertToNumber(n);  
 }  
 public void divide(String n) {  
 total /= convertToNumber(n);  
 }  
 private int convertToNumber(String n) {  
 return Integer.parseInt(n);  
 }  
 }  
}  
class ScientificCalculator {  
 public static void main(String[] args) {  
 JFrame frame = new Calculator();  
 frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);  
 frame.setVisible(true);  
 }  
}

1. **GRID CALCULATOR**
2. import java.awt.BorderLayout;  
   import java.awt.Font;  
   import java.awt.GridLayout;  
     
   import javax.swing.\*;  
     
   public class Calc2 {  
    public static final String[][] BUTTON\_TEXTS = {  
    {"7", "8", "9", "+"},  
    {"4", "5", "6", "-"},  
    {"1", "2", "3", "\*"},  
    {"0", ".", "/", "="}  
    };  
    private static void createAndShowGui() {  
    JTextField field = new JTextField(10);  
    field.setFont(BTN\_FONT.deriveFont(Font.PLAIN));  
    JPanel btnPanel = new JPanel(new GridLayout(BUTTON\_TEXTS.length,  
    BUTTON\_TEXTS[0].length));  
     
    for (int i = 0; i < BUTTON\_TEXTS.length; i++) {  
    for (int j = 0; j < BUTTON\_TEXTS[i].length; j++) {  
    JButton btn = new JButton(BUTTON\_TEXTS[i][j]);  
    btn.setFont(BTN\_FONT);  
    btnPanel.add(btn);  
    }  
    }  
     
    JPanel mainPanel = new JPanel(new BorderLayout());  
    mainPanel.add(field, BorderLayout.PAGE\_START);  
    mainPanel.add(btnPanel, BorderLayout.CENTER);  
     
     
    JFrame frame = new JFrame("Calc2");  
    frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);  
    frame.getContentPane().add(mainPanel);  
    frame.pack();  
    frame.setLocationRelativeTo(null);  
    frame.setVisible(true);  
    }  
     
    public static void main(String[] args) {  
    SwingUtilities.invokeLater(new Runnable() {  
    public void run() {  
    createAndShowGui();  
    }  
    });  
    }  
   }