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CLASS&ROLLNO.	CSD-C,22P61A67H1
SUBJECT:	JAVALAB

CONVERTINGAPPLETPROGRAMSINTOJFRAME

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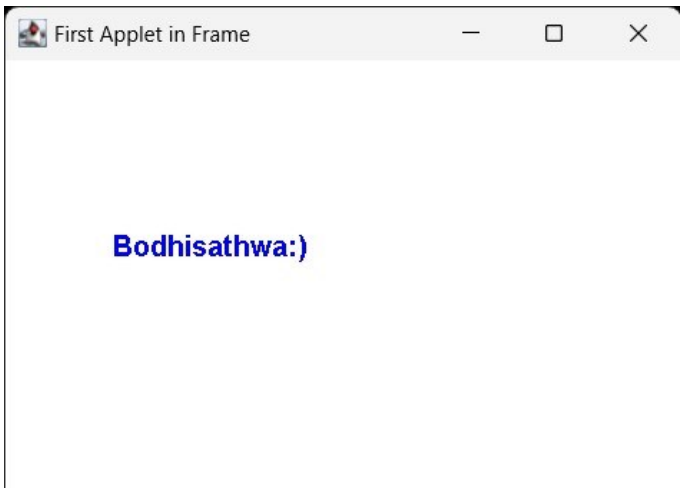
1)DevelopanappletinJavathatdisplaysasimplemessage(INTOJFRAME) importjava.awt.*;
importjava.awt.event.*;
publicclassFirstAppletFrameextendsFrame{
publicFirstAppletFrame(){ setSize(400,300);
setTitle("FirstAppletinFrame");
//Createaninstanceofyourapplet
FirstAppletfirstApplet=newFirstApplet();
//Addtheapplettotheframe add(firstApplet);
//SetupaWindowListenertohandleclosingtheframe
addWindowListener(newWindowAdapter(){ publicvoidwindowClosing(WindowEventwe){
System.exit(0);
} });}
publicstaticvoidmain(String[]args){
//Createandshowtheframe
EventQueue.invokeLater(()->{
FirstAppletFrameframe=newFirstAppletFrame();
frame.setVisible(true);
});}}
//OriginalAppletcode
classFirstAppletextendsjava.applet.Applet{
publicvoidpaint(Graphicsg){ g.setColor(Color.blue);
Fontfont=newFont("Arial",Font.BOLD,16);
g.setFont(font);
g.drawString("Bodhisathwa:)",60,110);
}}
Output:



2)Calculatorusingjframe: importjava.awt.*;

importjava.awt.event.*; importjavax.swing.*;

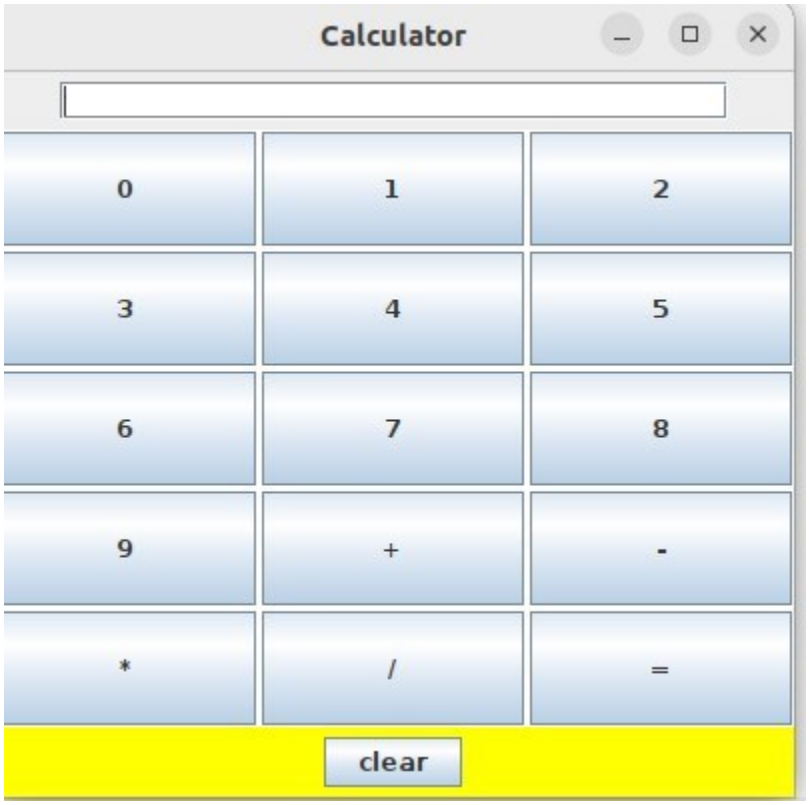
```
publicclassMyCalculatorFrameextendsJFrameimplementsActionListener{
    intnum1,num2,result;
    JTextFieldT1;
    JButtonNumButtons[]=newJButton[10];
    JButtonAdd,Sub,Mul,Div,clear,EQ; charOperation;
    JPanelnPanel,CPanel,SPanel;

    publicMyCalculatorFrame(){ nPanel=newJPanel();
        T1=newJTextField(30);
        nPanel.setLayout(newFlowLayout(FlowLayout.CENTER));
        nPanel.add(T1);

        CPanel=newJPanel();
        CPanel.setBackground(Color.white);
        CPanel.setLayout(newGridLayout(5,5,3,3));
```

```
for(inti=0;i<10;i++){
    NumButtons[i]=newJButton(""+i);
}
Add=newJButton("+");
Sub=newJButton("-");
Mul=newJButton("*"); Div=newJButton("/");
clear=newJButton("clear"); EQ=newJButton("=");
T1.addActionListener(this); for(inti=0;i<10;i++){
    CPanel.add(NumButtons[i]);
    NumButtons[i].addActionListener(this);
}
CPanel.add(Add);
CPanel.add(Sub);
CPanel.add(Mul);
CPanel.add(Div);
CPanel.add(EQ);

SPanel=newJPanel();
SPanel.setLayout(newFlowLayout(FlowLayout.CENTER));
SPanel.setBackground(Color.yellow); SPanel.add(clear);
clear.addActionListener(this);
EQ.addActionListener(this);

this.setLayout(newBorderLayout()); add(nPanel,BorderLayout.NORTH);
add(CPanel,BorderLayout.CENTER); add(SPanel,BorderLayout.SOUTH);
```

```
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setSize(400,400); setTitle("Calculator");
    setLocationRelativeTo(null);//Centertheframeonthescreen
}

publicvoidactionPerformed(ActionEventae){
    Stringstr=ae.getActionCommand();
    charch=str.charAt(0); if(Character.isDigit(ch))
        T1.setText(T1.getText()+str); elseif(str.equals("+")){
        num1=Integer.parseInt(T1.getText());
        Operation='+';
        T1.setText("");
    }elseif(str.equals("-")){
        num1=Integer.parseInt(T1.getText());
        Operation='-';
        T1.setText("");
    }elseif(str.equals("*")){
        num1=Integer.parseInt(T1.getText());
        Operation='*';
        T1.setText("");
    }elseif(str.equals("/")){
        num1=Integer.parseInt(T1.getText());
        Operation='/';
        T1.setText("");
    }elseif(str.equals("=")){
        num2=Integer.parseInt(T1.getText());
        switch(Operation){

            case'+':
                result=num1+num2; break;
            case'-':
                result=num1-num2; break;
```

```
            case'*':
                result=num1*num2; break;
            case'/':
                try{
                    result=num1/num2;
                }catch(ArithmeticExceptione){ result=num2;
                                JOptionPane.showMessageDialog(this,"Dividedbyzero");
                }
                break;
          }
          T1.setText(""+result);
       }elseif(str.equals("clear")){ T1.setText("");
       }
    }

    publicstaticvoidmain(String[]args){
       SwingUtilities.invokeLater(()->{
          MyCalculatorFramecalculatorFrame=newMyCalculatorFrame();
          calculatorFrame.setVisible(true);
       });
    }
}
```

Output:



3)Divisioncalculator: importjava.awt.*;

importjava.awt.event.*; importjavax.swing.*;

publicclassDivisionFrameextendsJFrameimplementsActionListener{

JLabelL1,L2,L3;

JTextFieldT1,T2,Result; JButtonB1;

publicDivisionFrame(){

L1=newJLabel("EnterFirstNum:"); add(L1);

T1=newJTextField(10); add(T1);

L2=newJLabel("EnterSecondNum:");

add(L2);

T2=newJTextField(10); add(T2);

L3=newJLabel("Result"); add(L3);

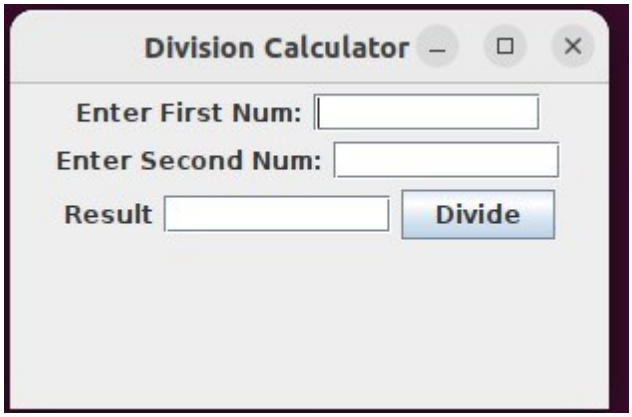
Result=newJTextField(10); add(Result);

B1=newJButton("Divide"); add(B1);

B1.addActionListener(this);

```
        setLayout(newFlowLayout());
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(300,200); setTitle("DivisionCalculator");
    }

    publicvoidactionPerformed(ActionEvente){
        if(e.getSource()==B1){
            try{
                intvalue1=Integer.parseInt(T1.getText());
                intvalue2=Integer.parseInt(T2.getText());

                intresult=value1/value2;
                Result.setText(String.valueOf(result));
            }catch(NumberFormatExceptionnfe){
                JOptionPane.showMessageDialog(this,"Notanumber");
            }catch(ArithmeticExceptionae){
                JOptionPane.showMessageDialog(this,"DividedbyZero");
            }
        }
    }

    publicstaticvoidmain(String[]args){
        SwingUtilities.invokeLater(()->{
            DivisionFramedivisionFrame=newDivisionFrame();
            divisionFrame.setVisible(true);
        });
    }
}
```

output:



4)Factorial: importjavax.swing.*;

importjava.awt.*;

importjava.awt.event.*;

publicclassFactorialFrameextendsJFrame{

privateJLabelL1,L2; privateJTextFieldT1,T2;

privateJButtonB1;

publicFactorialFrame(){

setLayout(newFlowLayout());

L1=newJLabel("EnteranyNumber:"); add(L1);

T1=newJTextField(10); add(T1);

L2=newJLabel("FactorialofNum:"); add(L2);

T2=newJTextField(10); add(T2);

B1=newJButton("Compute"); add(B1);

B1.addActionListener(newActionListener(){

publicvoidactionPerformed(ActionEvente){

intvalue=Integer.parseInt(T1.getText());

intfact=factorial(value);

T2.setText(String.valueOf(fact));

}

}); setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

setSize(500,250); setVisible(true);

```
    }

    intfactorial(intn){ if(n==0)
            return1;
        else
            returnn*factorial(n-1);
    }

    publicstaticvoidmain(String[]args){
        newFactorialFrame();
    }
}
```

Output: