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CET1042B: Object Oriented Programming with C++ and Java

SCHOOL OF COMPUTER ENGINEERING AND TECHNOLOGY

S. Y. B. TECH. COMPUTER SCIENCE AND ENGINEERING
(CYBERSECURITY AND FORENSICS)

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Assignment 8

Develop a simple calculator using Swings

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Getting Introduced with Java Swings

A simple program in java to create a simple calculator by the help of java swing with simplistic and easy to understood manner

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

public class JavaCalculator implements ActionListener{
JFrame frame;
JTextField textfield;
JButton[] numberButtons = new JButton[10];
JButton[] functionButtons = new JButton[9];
JButton addButton,subButton,mulButton,divButton;
JButton decButton, equButton, delButton, clrButton, negButton;
JPanel panel;
Font myFont = new Font("Ink Free",Font.BOLD,30);
double num1=0,num2=0,result=0;
char operator;
```

```
JavaCalculator(){
frame = new JFrame("Calculator");
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
frame.setSize(420, 550);
frame.setLayout(null);
textfield = new JTextField();
textfield.setBounds(50, 25, 300, 50);
textfield.setFont(myFont);
textfield.setEditable(false);
```

```
addButton = new JButton("+");
subButton = new JButton("-");
mulButton = new JButton("*");
divButton = new JButton("/");
decButton = new JButton(".");
equButton = new JButton("=");
delButton = new JButton("Del");
clrButton = new JButton("Clr");
negButton = new JButton("(-)");


functionButtons[0] = addButton;
functionButtons[1] = subButton;
functionButtons[2] = mulButton;
functionButtons[3] = divButton;
functionButtons[4] = decButton;
functionButtons[5] = equButton;
functionButtons[6] = delButton;
functionButtons[7] = clrButton;
functionButtons[8] = negButton;
```

```
for(int i =0;i<9;i++) {
functionButtons[i].addActionListener(this);
functionButtons[i].setFont(myFont);
functionButtons[i].setFocusable(false);
}
for(int i =0;i<10;i++) {
numberButtons[i] = new JButton(String.valueOf(i));
numberButtons[i].addActionListener(this);
numberButtons[i].setFont(myFont);
numberButtons[i].setFocusable(false);
}


negButton.setBounds(50,430,100,50);
delButton.setBounds(150,430,100,50);
clrButton.setBounds(250,430,100,50);
panel = new JPanel();
panel.setBounds(50, 100, 300, 300);
panel.setLayout(new GridLayout(4,4,10,10));
```

```
panel.add(numberButtons[1]);
panel.add(numberButtons[2]);
panel.add(numberButtons[3]);
panel.add(addButton);
panel.add(numberButtons[4]);
panel.add(numberButtons[5]);
panel.add(numberButtons[6]);
panel.add(subButton);
panel.add(numberButtons[7]);
panel.add(numberButtons[8]);
panel.add(numberButtons[9]);
panel.add(mulButton);
panel.add(decButton);
panel.add(numberButtons[0]);
panel.add(equButton);
panel.add(divButton);
frame.add(panel);
frame.add(negButton);
frame.add(delButton);
frame.add(clrButton);
frame.add(textfield);
frame.setVisible(true);
}
```

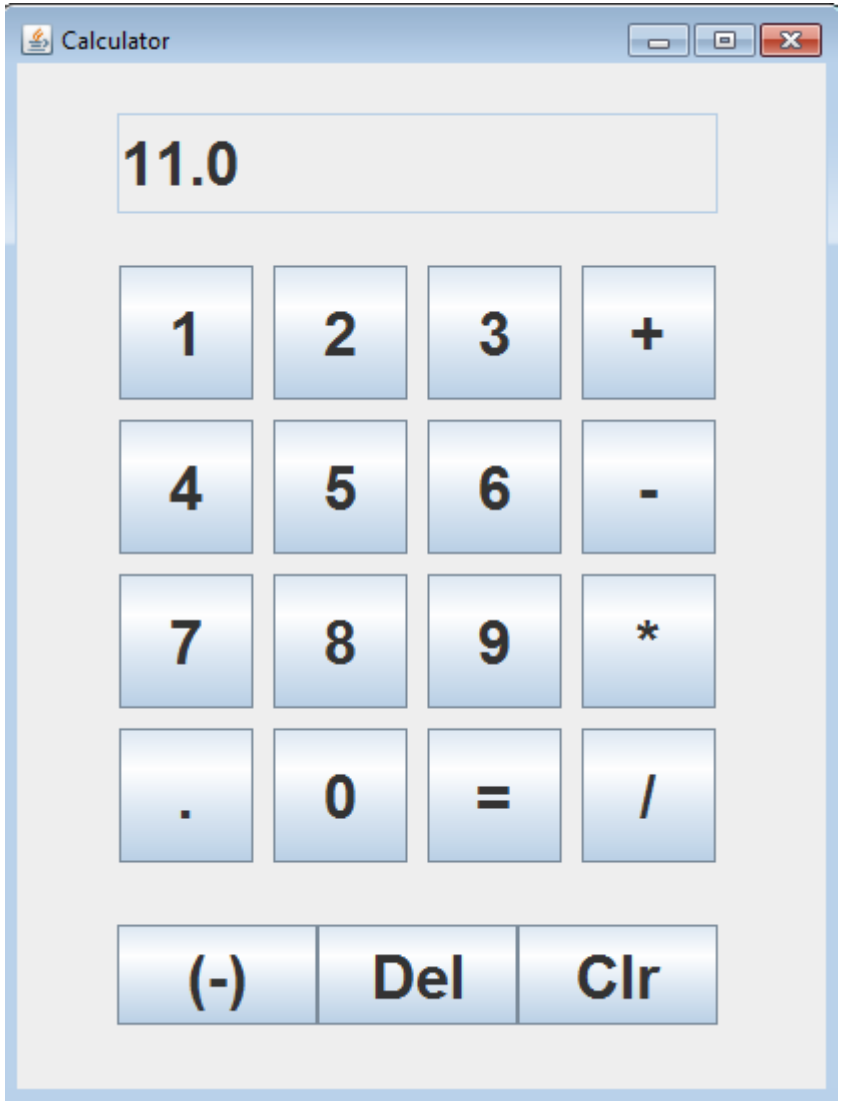
```
public static void main(String[] args) {
JavaCalculator calc = new JavaCalculator();
}
@Override
public void actionPerformed(ActionEvent e) {
for(int i=0;i<10;i++) {
if(e.getSource() == numberButtons[i]) {
textfield.setText(textfield.getText().concat(String.valueOf(i)
));
}
}
if(e.getSource()==decButton) {
textfield.setText(textfield.getText().concat("."));
}
if(e.getSource()==addButton) {
num1 = Double.parseDouble(textfield.getText());
operator ='+';
textfield.setText("");
}
```

```
if(e.getSource()==subButton) {
num1 = Double.parseDouble(textfield.getText());
operator ='-';
textfield.setText("");
}
if(e.getSource()==mulButton) {
num1 = Double.parseDouble(textfield.getText());
operator ='*';
textfield.setText("");
}
if(e.getSource()==divButton) {
num1 = Double.parseDouble(textfield.getText());
operator ='/';
textfield.setText("");
}
if(e.getSource()==equButton) {
num2=Double.parseDouble(textfield.getText());
```

```
switch(operator) {
case'+':
result=num1+num2;
break;
case'-':
result=num1-num2;
break;
case'*':
result=num1*num2;
break;
case'/':
result=num1/num2;
break;
}
textfield.setText(String.valueOf(result));
num1=result;
}
if(e.getSource()==clrButton) {
textfield.setText("");
}
```

```
if(e.getSource()==delButton) {
String string = textfield.getText();
textfield.setText("");
for(int i=0;i<string.length()-1;i++) {
textfield.setText(textfield.getText()+string.charAt(i));
}
}
if(e.getSource()==negButton) {
double temp = Double.parseDouble(textfield.getText());
temp*=-1;
textfield.setText(String.valueOf(temp));
}
}
}
```

Output



FAQs

1. What's Java Swing? ...
2. What Is Jfc?
3. What Is Awt? ...
4. What Are The Differences Between Swing and Awt?
5. What Are Heavyweight Components?
6. What Is Lightweight Component?
7. What Is Double Buffering?

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Thank You!!