**ABASYN UNIVERSITY**

**ISLAMABAD CAMPUS**



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| **Assignment** | **01** |

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# 

**Introduction**

Basic Calculator using Java language which performing basics mathematics operations (+, -, \*, /)

**Project Name**

Calculator

**Language**

Java

**Code**

package calculator;

import java.awt.EventQueue;

import javax.swing.JFrame;

import java.awt.Color;

import javax.swing.JButton;

import java.awt.Font;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

import javax.swing.JLabel;

import javax.swing.SwingConstants;

import javax.swing.border.LineBorder;

import javax.swing.UIManager;

public class Calculator {

private JFrame frame;

private JLabel Screen;

private JLabel Ans;

private double f\_number;

private String opr;

/\*\*

\* Launch the application.

\*/

public static void main(String[] args) {

EventQueue.invokeLater(new Runnable() {

public void run() {

try {

Calculator window = new Calculator();

window.frame.setVisible(true);

} catch (Exception e) {

e.printStackTrace();

}

}

});

}

/\*\*

\* Create the application.

\*/

public Calculator() {

initialize();

}

/\*\*

\* Initialize the contents of the frame.

\*/

private void initialize() {

frame = new JFrame();

frame.getContentPane().setFont(new Font("Tahoma", Font.BOLD, 25));

frame.getContentPane().setForeground(Color.LIGHT\_GRAY);

frame.getContentPane().setBackground(Color.LIGHT\_GRAY);

frame.setBounds(100, 100, 407, 469);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

frame.getContentPane().setLayout(null);

JButton btnNewButton = new JButton("0");

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"0");

}

});

btnNewButton.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton.setForeground(Color.BLACK);

btnNewButton.setBounds(0, 386, 89, 33);

frame.getContentPane().add(btnNewButton);

JButton btnNewButton\_1 = new JButton(".");

btnNewButton\_1.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+".");

}

});

btnNewButton\_1.setForeground(Color.BLACK);

btnNewButton\_1.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_1.setBounds(99, 386, 89, 33);

frame.getContentPane().add(btnNewButton\_1);

JButton btnNewButton\_2 = new JButton("=");

btnNewButton\_2.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

double s\_number;

s\_number=Double.parseDouble(Screen.getText());

Screen.setText (Screen.getText()+"=");

if(opr.equals("+")) {

Ans.setText(Double.toString(f\_number+s\_number));

}

else if(opr.equals("-")) {

Ans.setText(Double.toString(f\_number-s\_number));

}

else if(opr.equals("\*")) {

Ans.setText(Double.toString(f\_number\*s\_number));

}

else {

Ans.setText(Double.toString(f\_number/s\_number));

}

}

});

btnNewButton\_2.setForeground(Color.BLACK);

btnNewButton\_2.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_2.setBounds(198, 386, 89, 33);

frame.getContentPane().add(btnNewButton\_2);

JButton btnNewButton\_3 = new JButton("+");

btnNewButton\_3.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

opr="+";

f\_number=Double.parseDouble(Screen.getText());

Screen.setText("");

Screen.setText (Screen.getText()+"+");

}

});

btnNewButton\_3.setForeground(Color.BLACK);

btnNewButton\_3.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_3.setBounds(297, 386, 89, 33);

frame.getContentPane().add(btnNewButton\_3);

JButton btnNewButton\_4 = new JButton("1");

btnNewButton\_4.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"1");

}

});

btnNewButton\_4.setForeground(Color.BLACK);

btnNewButton\_4.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_4.setBounds(0, 326, 89, 33);

frame.getContentPane().add(btnNewButton\_4);

JButton btnNewButton\_5 = new JButton("2");

btnNewButton\_5.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"2");

}

});

btnNewButton\_5.setForeground(Color.BLACK);

btnNewButton\_5.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_5.setBounds(99, 326, 89, 33);

frame.getContentPane().add(btnNewButton\_5);

JButton btnNewButton\_6 = new JButton("3");

btnNewButton\_6.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"3");

}

});

btnNewButton\_6.setForeground(Color.BLACK);

btnNewButton\_6.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_6.setBounds(198, 326, 89, 33);

frame.getContentPane().add(btnNewButton\_6);

JButton btnNewButton\_7 = new JButton("-");

btnNewButton\_7.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

opr="-";

f\_number=Double.parseDouble(Screen.getText());

Screen.setText("");

//Screen.setText (Screen.getText()+"-");

}

});

btnNewButton\_7.setForeground(Color.BLACK);

btnNewButton\_7.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_7.setBounds(297, 326, 89, 33);

frame.getContentPane().add(btnNewButton\_7);

JButton btnNewButton\_8 = new JButton("4");

btnNewButton\_8.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"4");

}

});

btnNewButton\_8.setForeground(Color.BLACK);

btnNewButton\_8.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_8.setBounds(0, 274, 89, 33);

frame.getContentPane().add(btnNewButton\_8);

JButton btnNewButton\_9 = new JButton("5");

btnNewButton\_9.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"5");

}

});

btnNewButton\_9.setForeground(Color.BLACK);

btnNewButton\_9.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_9.setBounds(99, 274, 89, 33);

frame.getContentPane().add(btnNewButton\_9);

JButton btnNewButton\_10 = new JButton("6");

btnNewButton\_10.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"6");

}

});

btnNewButton\_10.setForeground(Color.BLACK);

btnNewButton\_10.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_10.setBounds(198, 274, 89, 33);

frame.getContentPane().add(btnNewButton\_10);

JButton btnNewButton\_11 = new JButton("\*");

btnNewButton\_11.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

opr="\*";

f\_number=Double.parseDouble(Screen.getText());

Screen.setText("");

//Screen.setText (Screen.getText()+"\*");

}

});

btnNewButton\_11.setForeground(Color.BLACK);

btnNewButton\_11.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_11.setBounds(297, 274, 89, 33);

frame.getContentPane().add(btnNewButton\_11);

JButton btnNewButton\_12 = new JButton("7");

btnNewButton\_12.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"7");

}

});

btnNewButton\_12.setForeground(Color.BLACK);

btnNewButton\_12.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_12.setBounds(0, 218, 89, 33);

frame.getContentPane().add(btnNewButton\_12);

JButton btnNewButton\_13 = new JButton("8");

btnNewButton\_13.setBackground(UIManager.getColor("Button.background"));

btnNewButton\_13.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"8");

}

});

btnNewButton\_13.setForeground(Color.BLACK);

btnNewButton\_13.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_13.setBounds(99, 218, 89, 33);

frame.getContentPane().add(btnNewButton\_13);

JButton btnNewButton\_14 = new JButton("9");

btnNewButton\_14.setBackground(UIManager.getColor("Button.shadow"));

btnNewButton\_14.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText (Screen.getText()+"9");

}

});

btnNewButton\_14.setForeground(Color.BLACK);

btnNewButton\_14.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_14.setBounds(198, 218, 89, 33);

frame.getContentPane().add(btnNewButton\_14);

JButton btnNewButton\_15 = new JButton("/");

btnNewButton\_15.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

opr="/";

f\_number=Double.parseDouble(Screen.getText());

Screen.setText("");

//Screen.setText (Screen.getText()+"/");

}

});

btnNewButton\_15.setForeground(Color.BLACK);

btnNewButton\_15.setFont(new Font("Tw Cen MT", Font.BOLD, 20));

btnNewButton\_15.setBounds(297, 218, 89, 33);

frame.getContentPane().add(btnNewButton\_15);

Screen = new JLabel("");

Screen.setBorder(new LineBorder(Color.WHITE, 3));

Screen.setFont(new Font("Tahoma", Font.BOLD, 20));

Screen.setForeground(Color.BLACK);

Screen.setBackground(Color.BLACK);

Screen.setBounds(0, 35, 391, 53);

frame.getContentPane().add(Screen);

Ans = new JLabel("");

Ans.setBorder(new LineBorder(Color.WHITE, 2));

Ans.setBackground(Color.LIGHT\_GRAY);

Ans.setHorizontalAlignment(SwingConstants.RIGHT);

Ans.setFont(new Font("Tahoma", Font.BOLD, 20));

Ans.setForeground(Color.WHITE);

Ans.setBounds(0, 98, 391, 53);

frame.getContentPane().add(Ans);

JButton btnNewButton\_16 = new JButton("Clear");

btnNewButton\_16.setFont(new Font("Tahoma", Font.BOLD, 14));

btnNewButton\_16.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

Screen.setText("");

}

});

btnNewButton\_16.setBounds(133, 162, 89, 35);

frame.getContentPane().add(btnNewButton\_16);

JLabel lblNewLabel = new JLabel("Mamoon Ejaz 4545");

lblNewLabel.setForeground(Color.BLACK);

lblNewLabel.setBackground(Color.WHITE);

lblNewLabel.setFont(new Font("Tahoma", Font.BOLD, 20));

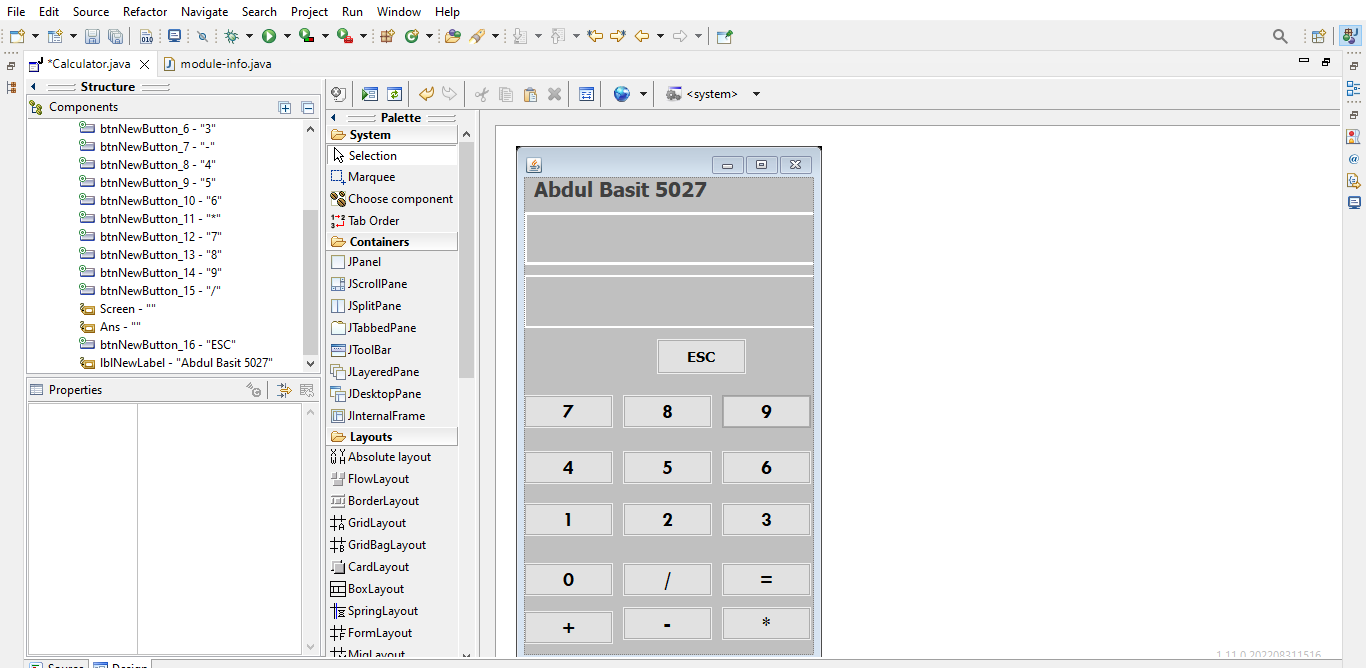
lblNewLabel.setBounds(10, 0, 256, 24);

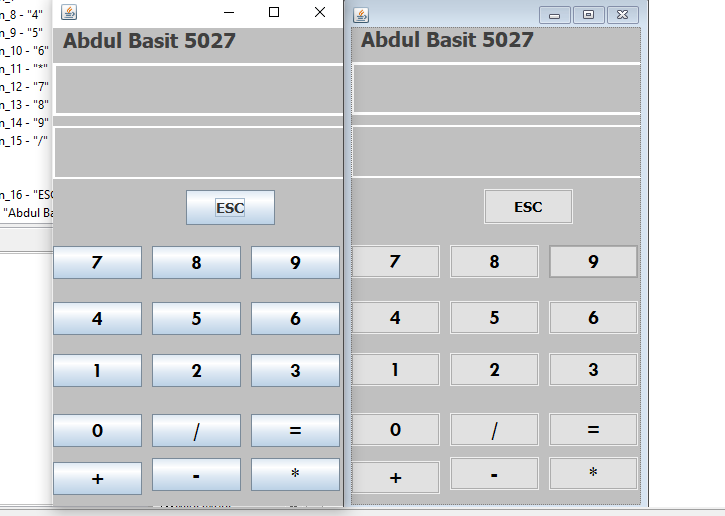
frame.getContentPane().add(lblNewLabel);

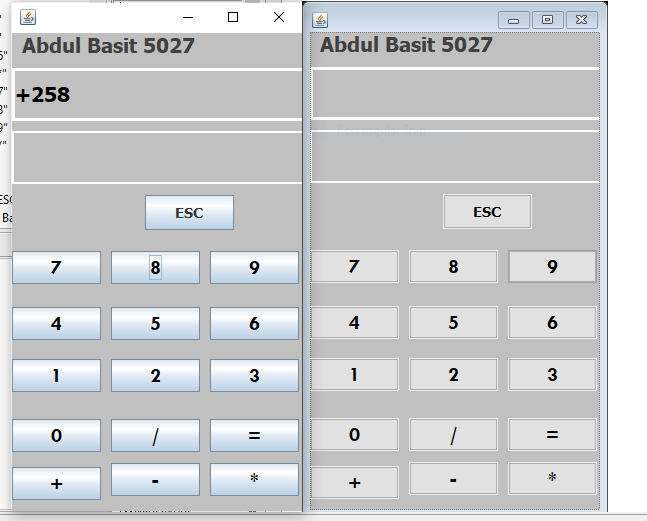
}

}

**Output**







**Description : In my calculator we perform addition , subtraction , multiplication and division. Here we can add ,sub, multiple and divide two or more number.**

**Github link:**

**https://github.com/Abdulbasit451/Assignment.git**

END