***LAPORAN TUGAS PRAKTIKUM PEMROGRAMAN BERORIENTASI OBJEK***

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| **Pertemuan Ke-:**  **11** | |
| **Pembahasan:**  GUI (Graphical User Interface) | |
| **NIM:**  1841720178 | **Dosen Pengampu:**  Septian Enggar Sukmana |
| **Nama Mahasiswa:**  Aris Nur A | **Nilai:** |

**TUJUAN PRAKTIKUM (10 points)**

1. Membuat aplikasi Graphical User Interface sederhana dengan bahasa pemrograman java;

2. Mengenal komponen GUI seperti frame, label, textfield, combobox, radiobutton, checkbox, textarea, menu, serta table;

3. Menambahkan event handling pada aplikasi GUI.

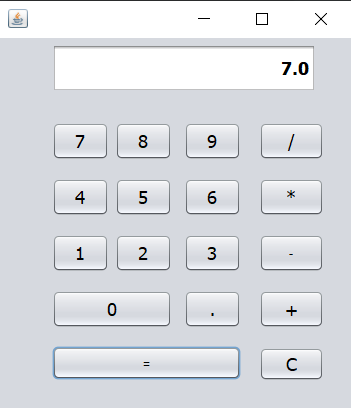
**JAWABAN PERTANYAAN (30 points)**

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| Pertanyaan Percobaan 2 | a) Modifikasi kode program dengan menambahkan JButton baru untuk melakukan fungsi perhitungan penambahan, sehingga ketika button di klik (event click) maka akan menampilkan hasil penambahan dari nilai A dan B  **Jawab:**  **/\***  **\* To change this license header, choose License Headers in Project Properties.**  **\* To change this template file, choose Tools | Templates**  **\* and open the template in the editor.**  **\*/**  **package myinputform;**  **/\*\***  **\***  **\* @author Acer**  **\*/**  **import java.awt.event.ActionEvent;**  **import java.awt.event.ActionListener;**  **import javax.swing.\*;**  **public class MyInputForm extends JFrame {**  **private static final int FRAME\_WIDTH = 600;**  **private static final int FRAME\_HEIGHT = 200;**  **private JLabel aLabel;**  **private JLabel bLabel;**  **private JLabel cLabel;**  **private JLabel dLabel;**  **private JTextField aField;**  **private JTextField bField;**  **private JButton button;**  **private JButton button1;**  **private JPanel panel;**  **/\*\***  **\* @param args the command line arguments**  **\*/**  **public MyInputForm(){**  **createTextField();**  **createButton();**  **createButtons();**  **createPanel();**  **setSize(FRAME\_WIDTH, FRAME\_WIDTH);**  **}**    **private void createTextField(){**  **aLabel = new JLabel("Nilai A: ");**  **bLabel = new JLabel("Nilai B: ");**  **cLabel = new JLabel("Nilai C: ");**  **dLabel = new JLabel("Nilai D: ");**    **final int FIELD\_WIDTH = 10;**  **aField = new JTextField(FIELD\_WIDTH);**  **aField.setText("0");**  **bField = new JTextField(FIELD\_WIDTH);**  **bField.setText("0");**  **}**    **private void createButton() {**  **button = new JButton("Calculate");**  **class AddInterestListener implements ActionListener{**  **@Override**  **public void actionPerformed(ActionEvent event) {**  **int a = Integer.valueOf(aField.getText());**  **int b = Integer.valueOf(bField.getText());**  **int c = a \* b;**  **cLabel.setText("Hasil: " + c);**  **}**    **}**  **ActionListener listener = new AddInterestListener();**  **button.addActionListener(listener);**  **}**    **private void createButtons() {**  **button1 = new JButton("Tambah");**  **class AddInterestListener implements ActionListener{**  **@Override**  **public void actionPerformed(ActionEvent event) {**  **int a = Integer.valueOf(aField.getText());**  **int b = Integer.valueOf(bField.getText());**  **int d = a + b;**  **dLabel.setText("Hasil Jumlah: " + d);**    **}**    **}**  **ActionListener listener = new AddInterestListener();**  **button1.addActionListener(listener);**  **}**    **private void createPanel() {**  **panel = new JPanel();**  **panel.add(aLabel);**  **panel.add(aField);**  **panel.add(bLabel);**  **panel.add(bField);**  **panel.add(button);**  **panel.add(button1);**  **panel.add(cLabel);**  **panel.add(dLabel);**    **add(panel);**  **}**  **public static void main(String[] args) {**  **// TODO code application logic here**  **JFrame frame = new MyInputForm();**  **frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);**  **frame.setVisible(true);**  **frame.setLocationRelativeTo(null);**  **}**  **}** |
| Pertanyaan Percobaan 3 | a) Apa perbedaan dari Grid Layout, Box Layout dan Border Layout?  b) Apakah fungsi dari masing-masing kode berikut?  **Jawab:**   1. GridLayout menempatkan komponen dalam bentuk “rectangular grid”, BoxLayout menempatkan komponen dalam satu baris atau satu kolom dan BorderLayout BorderLayout menyusun komponen berdasarkan lokasi geografis: NORTH, SOUTH, EAST, WEST, and CENTER. 2. Untuk Manggil masing” Class. |
| Pertanyaan Percobaan 4 | a) Apakah fungsi dari kode berikut?    b) Mengapa pada bagian logika checkbox dan radio button digunakan multiple if ?  c) Lakukan modifikasi pada program untuk melakukan menambahkan inputan berupa alamat dan berikan fungsi pemeriksaan pada nilai Alamat tersebut jika belum diisi dengan menampilkan pesan peringatan  **Jawab:**   1. Fungsi dari kode tersebut adalah fungsi atau method untuk menangani event klik pada tombol. 2. Karena pada bagian logika checkbox dan radio button berisikan pilihan atau percabangan maka dari itu menggunakan multiple if 3. .   private void cmdtampilActionPerformed(java.awt.event.ActionEvent evt) {  // TODO add your handling code here:  nama=txtname.getText();  nim=txtnim.getText();  alamat=txtalamat.getText();  if(cbMK1.isSelected())  matakuliah = "Sistem terdistribusi";  if(cbMK2.isSelected())  matakuliah = "PBO";    if(rdjeniskelamin1.isSelected())  jeniskelamin = "Laki-Laki";  if(rdjeniskelamin2.isSelected())  jeniskelamin = "Perempuan";    jurusan = listjurusan.getSelectedValue().toString();  semester = comboboxsemester.getSelectedItem().toString();    info="Nama : "+nama+"\n";  info+="NIM : "+nim+"\n";  info+="Alamat : "+alamat+"\n";  info+="Jenis Kelamin : "+jeniskelamin+"\n";  info+="Jurusan : "+jurusan+"\n";  info+="Semester : "+semester+"\n";  info+="Mata Kuliah : "+matakuliah+"\n";  hasil.setText(info);  if(alamat.isEmpty())  JOptionPane.showMessageDialog(null,"Alamat Belum anda Isi","Peringatan!!!",JOptionPane.ERROR\_MESSAGE);  JOptionPane.showMessageDialog(null,info);    } |
| Pertanyaan Percobaan 5 | a) Apa kegunaan komponen swing JTabPane, JTtree, pada percobaan 5?  b) Modifikasi program untuk menambahkan komponen JTable pada tab Halaman 1 dan tab Halaman 2  **Jawab:**  a) JTabPane berfungsi sebagai panel yang memiliki tab & bisa beralih dari tab 1 ke tab lainnya.  JTree berfungsi sebagai sebuah direktori folder yang tersusun seperti pohon ketika memiliki folder didalam folder  b) . |

**KODE PROGRAM DAN PENJELASAN TIAP METHODNYA (30 points)**

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| Nama Class: Kalkulator |
| package tugasgui;  /\*\*  \*  \* @author Acer  \*/  public class Kalkulator extends javax.swing.JFrame {  double a;  double b;  String operation;  double result;  public Kalkulator() {  initComponents();  }  @SuppressWarnings("unchecked")  // <editor-fold defaultstate="collapsed" desc="Generated Code">  private void initComponents() {  jtxtDisplay = new javax.swing.JTextField();  b7 = new javax.swing.JButton();  b8 = new javax.swing.JButton();  b9 = new javax.swing.JButton();  b4 = new javax.swing.JButton();  b5 = new javax.swing.JButton();  b6 = new javax.swing.JButton();  b1 = new javax.swing.JButton();  b2 = new javax.swing.JButton();  b3 = new javax.swing.JButton();  b0 = new javax.swing.JButton();  btitik = new javax.swing.JButton();  bbagi = new javax.swing.JButton();  bkali = new javax.swing.JButton();  bkurang = new javax.swing.JButton();  btambah = new javax.swing.JButton();  hasil = new javax.swing.JButton();  jButton1 = new javax.swing.JButton();  setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);  jtxtDisplay.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N  jtxtDisplay.setHorizontalAlignment(javax.swing.JTextField.RIGHT);  b7.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b7.setText("7");  b7.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b7ActionPerformed(evt);  }  });  b8.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b8.setText("8");  b8.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b8ActionPerformed(evt);  }  });  b9.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b9.setText("9");  b9.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b9ActionPerformed(evt);  }  });  b4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b4.setText("4");  b4.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b4ActionPerformed(evt);  }  });  b5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b5.setText("5");  b5.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b5ActionPerformed(evt);  }  });  b6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b6.setText("6");  b6.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b6ActionPerformed(evt);  }  });  b1.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b1.setText("1");  b1.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b1ActionPerformed(evt);  }  });  b2.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b2.setText("2");  b2.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b2ActionPerformed(evt);  }  });  b3.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b3.setText("3");  b3.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b3ActionPerformed(evt);  }  });  b0.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  b0.setText("0");  b0.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  b0ActionPerformed(evt);  }  });  btitik.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  btitik.setText(".");  btitik.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  btitikActionPerformed(evt);  }  });  bbagi.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  bbagi.setText("/");  bbagi.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  bbagiActionPerformed(evt);  }  });  bkali.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  bkali.setText("\*");  bkali.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  bkaliActionPerformed(evt);  }  });  bkurang.setText("-");  bkurang.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  bkurangActionPerformed(evt);  }  });  btambah.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  btambah.setText("+");  btambah.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  btambahActionPerformed(evt);  }  });  hasil.setText("=");  hasil.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  hasilActionPerformed(evt);  }  });  jButton1.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N  jButton1.setText("C");  jButton1.addActionListener(new java.awt.event.ActionListener() {  public void actionPerformed(java.awt.event.ActionEvent evt) {  jButton1ActionPerformed(evt);  }  });  javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());  getContentPane().setLayout(layout);  layout.setHorizontalGroup(  layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()  .addContainerGap(53, Short.MAX\_VALUE)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)  .addGroup(layout.createSequentialGroup()  .addComponent(jtxtDisplay)  .addGap(35, 35, 35))  .addGroup(layout.createSequentialGroup()  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)  .addComponent(hasil, javax.swing.GroupLayout.Alignment.LEADING, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addGroup(layout.createSequentialGroup()  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)  .addComponent(b0, javax.swing.GroupLayout.Alignment.LEADING, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addGroup(javax.swing.GroupLayout.Alignment.LEADING, layout.createSequentialGroup()  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)  .addComponent(b1, javax.swing.GroupLayout.Alignment.LEADING, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b4, javax.swing.GroupLayout.Alignment.LEADING, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b7, javax.swing.GroupLayout.PREFERRED\_SIZE, 57, javax.swing.GroupLayout.PREFERRED\_SIZE))  .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(b8, javax.swing.GroupLayout.PREFERRED\_SIZE, 57, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addComponent(b5, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b2, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))))  .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(b9, javax.swing.GroupLayout.PREFERRED\_SIZE, 57, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addComponent(btitik, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b3, javax.swing.GroupLayout.PREFERRED\_SIZE, 57, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addComponent(b6, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))))  .addGap(18, 18, 18)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  .addComponent(bbagi, javax.swing.GroupLayout.PREFERRED\_SIZE, 65, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(bkali, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(bkurang, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(btambah, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.DEFAULT\_SIZE, 65, Short.MAX\_VALUE)  .addComponent(jButton1, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)))  .addGap(27, 27, 27))))  );  layout.setVerticalGroup(  layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  .addGroup(layout.createSequentialGroup()  .addContainerGap()  .addComponent(jtxtDisplay, javax.swing.GroupLayout.PREFERRED\_SIZE, 48, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addGap(30, 30, 30)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  .addComponent(b7, javax.swing.GroupLayout.PREFERRED\_SIZE, 38, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)  .addComponent(b8, javax.swing.GroupLayout.PREFERRED\_SIZE, 38, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addComponent(b9, javax.swing.GroupLayout.PREFERRED\_SIZE, 38, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addComponent(bbagi, javax.swing.GroupLayout.PREFERRED\_SIZE, 38, javax.swing.GroupLayout.PREFERRED\_SIZE)))  .addGap(18, 18, 18)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(b4, javax.swing.GroupLayout.DEFAULT\_SIZE, 38, Short.MAX\_VALUE)  .addComponent(b5, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(bkali, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b6, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))  .addGap(18, 18, 18)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(b1, javax.swing.GroupLayout.DEFAULT\_SIZE, 38, Short.MAX\_VALUE)  .addComponent(b2, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(bkurang, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(b3, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))  .addGap(18, 18, 18)  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)  .addComponent(b0, javax.swing.GroupLayout.DEFAULT\_SIZE, 38, Short.MAX\_VALUE)  .addComponent(btitik, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)  .addComponent(btambah, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  .addGroup(layout.createSequentialGroup()  .addGap(18, 18, 18)  .addComponent(hasil, javax.swing.GroupLayout.PREFERRED\_SIZE, 34, javax.swing.GroupLayout.PREFERRED\_SIZE)  .addContainerGap(javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))  .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()  .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 19, Short.MAX\_VALUE)  .addComponent(jButton1)  .addGap(27, 27, 27))))  );  pack();  }// </editor-fold>  private void b8ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b8.getText();  jtxtDisplay.setText(enternumber);  }  private void b7ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b7.getText();  jtxtDisplay.setText(enternumber);  }  private void b1ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b1.getText();  jtxtDisplay.setText(enternumber);  }  private void b2ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b2.getText();  jtxtDisplay.setText(enternumber);  }  private void b3ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b3.getText();  jtxtDisplay.setText(enternumber);  }  private void b4ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b4.getText();  jtxtDisplay.setText(enternumber);  }  private void b5ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b5.getText();  jtxtDisplay.setText(enternumber);  }  private void b6ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b6.getText();  jtxtDisplay.setText(enternumber);  }  private void b9ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b9.getText();  jtxtDisplay.setText(enternumber);  }  private void b0ActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + b0.getText();  jtxtDisplay.setText(enternumber);  }  private void btambahActionPerformed(java.awt.event.ActionEvent evt) {  a = Double.parseDouble(jtxtDisplay.getText());  jtxtDisplay.setText("");  operation="+";  }  private void bkurangActionPerformed(java.awt.event.ActionEvent evt) {  a = Double.parseDouble(jtxtDisplay.getText());  jtxtDisplay.setText("");  operation="-";  }  private void bkaliActionPerformed(java.awt.event.ActionEvent evt) {  a = Double.parseDouble(jtxtDisplay.getText());  jtxtDisplay.setText("");  operation="\*";  }  private void bbagiActionPerformed(java.awt.event.ActionEvent evt) {  a = Double.parseDouble(jtxtDisplay.getText());  jtxtDisplay.setText("");  operation="/";  }  private void btitikActionPerformed(java.awt.event.ActionEvent evt) {  String enternumber = jtxtDisplay.getText() + btitik.getText();  jtxtDisplay.setText(enternumber);  }  private void hasilActionPerformed(java.awt.event.ActionEvent evt) {  String jawab;  b = Double.parseDouble(jtxtDisplay.getText());  if (operation == "+"){  result = a + b;  jawab = String.valueOf( result);  jtxtDisplay.setText(jawab);  }  else if (operation == "-"){  result = a - b;  jawab = String.valueOf( result);  jtxtDisplay.setText(jawab);  }  else if (operation == "\*"){  result = a \* b;  jawab = String.valueOf( result);  jtxtDisplay.setText(jawab);  }  else if (operation == "/"){  result = a / b;  jawab = String.valueOf( result);  jtxtDisplay.setText(jawab);  }  }  private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  jtxtDisplay.setText("");  }  /\*\*  \* @param args the command line arguments  \*/  public static void main(String args[]) {  /\* Set the Nimbus look and feel \*/  //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">  /\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.  \* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html  \*/  try {  for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {  if ("Nimbus".equals(info.getName())) {  javax.swing.UIManager.setLookAndFeel(info.getClassName());  break;  }  }  } catch (ClassNotFoundException ex) {  java.util.logging.Logger.getLogger(Kalkulator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);  } catch (InstantiationException ex) {  java.util.logging.Logger.getLogger(Kalkulator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);  } catch (IllegalAccessException ex) {  java.util.logging.Logger.getLogger(Kalkulator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);  } catch (javax.swing.UnsupportedLookAndFeelException ex) {  java.util.logging.Logger.getLogger(Kalkulator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);  }  //</editor-fold>  /\* Create and display the form \*/  java.awt.EventQueue.invokeLater(new Runnable() {  public void run() {  new Kalkulator().setVisible(true);  }  });  }  // Variables declaration - do not modify  private javax.swing.JButton b0;  private javax.swing.JButton b1;  private javax.swing.JButton b2;  private javax.swing.JButton b3;  private javax.swing.JButton b4;  private javax.swing.JButton b5;  private javax.swing.JButton b6;  private javax.swing.JButton b7;  private javax.swing.JButton b8;  private javax.swing.JButton b9;  private javax.swing.JButton bbagi;  private javax.swing.JButton bkali;  private javax.swing.JButton bkurang;  private javax.swing.JButton btambah;  private javax.swing.JButton btitik;  private javax.swing.JButton hasil;  private javax.swing.JButton jButton1;  private javax.swing.JTextField jtxtDisplay;  // End of variables declaration  } |
| Penjelasan: |

**HASIL (15 points)**



**KESIMPULAN (15 points)**

Dalam pemrograman GUI terdapat beberapa bagian yang harus dilakukan yaitu: Membuat windows utama,menentukan komponen-komponen pendukung program,menentukan tata letak layout agar nantinya semua komponen – komponen yang sudah dipersiapkan bisa diaatur sedemikian rupa,event Handling dari sebuah aktivitas, seperti penekanan button, check box dan lain-lain.