PEMROGRAMAN BERORIENTASI OBJEK

(Tugas Java GUI Parkir dan Kalkulator)

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Program Studi Teknik Informatika

2022

1. Aplikasi Parkir
   a. Input waktu Manual
      i. Source Code:
         1. Class:
            a. Waktu

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package Waktu;


/**
 *
 * @author Windows 10
 */
import java.util.Scanner;
public class Waktu {
    private int jam, menit, detik;


    public Waktu(int jam, int menit, int detik){
        this.jam = jam;
        this.menit = menit;
        this.detik = detik;


    }


    public Waktu(String w){
```

```java
        this.setWaktuFromString(w);

    }

    public Waktu(){

        this.jam = 0;

        this.menit = 0;

        this.detik = 0;

    }


    //Input

    public void setJam(int jam){

        this.jam = jam;

    }



    public void setMenit(int menit){

        this.menit = menit;

    }

    public void setDetik(int detik){

        this.detik = detik;

    }



    public void inputJam(){

        Scanner input = new
Scanner(System.in);

        System.out.print("Masukkan jam   : ");

        this.jam = input.nextInt();

        System.out.print("Masukkan menit : ");

        this.menit = input.nextInt();

        System.out.print("Masukkan detik : ");
```

```java
        this.detik = input.nextInt();

    }


    //Output
    public int getJam(){

        return this.jam;

    }

    public int getMenit(){

        return this.menit;

    }

    public int getDetik(){

        return this.detik;

    }


    public String getWaktu(){

        String nolJam ="", nolMenit="", nolDetik="";

        if(this.jam < 10){

            nolJam = "0";

        }

        if(this.menit < 10){

            nolMenit = "0";

        }

        if(this.detik < 10){

            nolDetik = "0";

        }
```

```java
        return nolJam + this.jam + ":" +
nolMenit + this.menit + ":" + nolDetik +
this.detik;

    }



    //Proses

    public int convertToSecond(){



        int hasil = this.detik + this.menit*60
+ this.jam*3600;

        return hasil;

    }



    public void secondToClock(int second){

        this.menit = second / 60;

        this.detik = second % 60;

        this.jam = this.menit / 60;

        this.menit=this.menit % 60;

    }



    public Waktu cariDurasi(Waktu akhir){

        Waktu temp =  new Waktu();



        int detikAwal =
this.convertToSecond();

        int detikAkhir =
akhir.convertToSecond();

        if(detikAkhir < detikAwal){

            detikAkhir += 86400;

        }
```

```java
        int detikHasil = detikAkhir -
detikAwal;




        temp.secondToClock(detikHasil);

        return temp;

    }



    public void setWaktuFromString(String w){

        String[]waktu = w.split(":");

        this.jam = Integer.parseInt(waktu[0]);

        this.menit =
Integer.parseInt(waktu[1]);

        this.detik =
Integer.parseInt(waktu[2]);

    }



}
```

b. Kendaraan

```java
/*
 * Click
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ses/license-default.txt to change this license
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Class
es/Class.java to edit this template
 */

package Kendaraan;
```

```java
/**
 *
 * @author Windows 10
 */
import Waktu.Waktu;
import java.util.Scanner;
public abstract class Kendaraan {
    protected String no;
        protected String jenis;
        protected Waktu datang = new Waktu();
        protected Waktu pulang = new Waktu();


        public Kendaraan(){


            this.no = " ";
            this.jenis= " ";


        }


        //Input
        public void setNoKendaraan(String no){
            this.no=no;
        }
        public void setJenis(String jenis){
            this.jenis=jenis;
        }
```

```java
        public void setWaktudatang(Waktu datang){

                this.datang=datang;

        }



        public void setWaktuPulang(Waktu pulang){

                this.pulang=pulang;

        }



        public void inputKendaraan(){


                Scanner input=new Scanner(System.in);


                System.out.println("\n--- INPUT KENDARAAN ---");

                System.out.print("No Kendaraan : ");

                this.no = input.nextLine();


                System.out.println("\n-- Jam Masuk Kendaraan --");

                this.datang.inputJam();


                System.out.println("\n-- Jam Keluar Kendaraan --");

                pulang.inputJam();


        }
```

```java
        //Output

        public String getNoKendaraan(){

            return this.no;

        }


        public String getJenis(){

            return this.jenis;

        }


        public Waktu getWaktudatang(){

            return this.datang;

        }


        public Waktu getWaktuPulang(){

            return this.pulang;

        }


        //Proses

        public Waktu getLamaParkir(){

            return
this.datang.cariDurasi(this.pulang);

        }


        public int getLamaJam(){

            int hasil = 0;

if(this.getLamaParkir().getMenit()>=10 ||
this.getLamaParkir().getJam()>=1){
```

```java
                hasil = this.getLamaParkir().getJam();



                if( this.getLamaParkir().getMenit()>0 || this.getLamaParkir().getDetik()>0 ){

                        hasil +=1;

                }



        }

        return hasil;

    }



    public abstract int getBiayaParkir();

    // hasil = getLamaJam() * 2000;



    public void getKendaraan(){

        System.out.println("No kendaraan = " + this.no);

        System.out.println("Jenis = " + this.jenis);

        System.out.println("Jam Masuk = " + this.getWaktudatang().getWaktu());

        System.out.println("Jam Pulang = " + this.getWaktuPulang().getWaktu());

        System.out.println("Lama Parkir = " + this.getLamaParkir().getWaktu());

        System.out.println("Lama jam = " + this.getLamaJam());

        System.out.println("Biaya = " + this.getBiayaParkir());

        }
```

```
}
```

c. Mobil

```
/*

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 * Click
nbfs://nbhost/SystemFileSystem/Templates/Class
es/Class.java to edit this template

 */

package Kendaraan;


/**

 *

 * @author Windows 10

 */

public class Mobil extends Kendaraan {

    public Mobil(){

        super();

        this.jenis = "Mobil";

    }


    @Override

    public int getBiayaParkir() {

        return getLamaJam() * 3000;

    }
```

```
}
```

d. Motor

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package Kendaraan;

/**
 *
 * @author Windows 10
 */
public class Motor extends Kendaraan {
    public Motor(){
        super();
        this.jenis="Motor";
    }

    @Override
    public int getBiayaParkir() {
        return getLamaJam() * 2000;
    }

}
```

e. Truck

```java
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package Kendaraan;


/**
 *
 * @author Windows 10
 */
public class Truck extends Kendaraan {
    public Truck(){
        super();
        this.jenis="Truck";
    }


    @Override
    public int getBiayaParkir() {
        return getLamaJam() * 10000;
    }


}
```

f. Element List

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package DataStructure;


/**
 *
 * @author Windows 10
 */
import Kendaraan.Kendaraan;
public class ElementList {
    private Kendaraan data;
    public ElementList next;

    public ElementList(){
        this.data = null;
        this.next = null;
    }

    public ElementList(Kendaraan data){
        this.data = data;
        this.next = null;
```

```java
    }


    public void setData(Kendaraan data){

        this.data = data;

    }


    public Kendaraan getData(){

        return this.data;

    }


}
```

g. Linked List

```java
/*

 * Click
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ses/license-default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/Class
es/Class.java to edit this template

 */

package DataStructure;


/**

 *

 * @author Windows 10

 */

import java.util.Scanner;

import Kendaraan.*;
```

```java
import Waktu.Waktu;

public class LinkedList {

    private ElementList first;


    public LinkedList(){

        this.first = null;

    }


    public void createList(){

        this.first = null;

    }


    public ElementList getFirst(){

        return this.first;

    }


    public ElementList createElmnt(String
plat,String nama,Waktu d,Waktu p){


        ElementList baru = new ElementList();

        switch(nama){

            case "Mobil":

                baru.setData(new Mobil());

                break;


            case "Motor":

                baru.setData(new Motor());

                break;
```

```java
                case "Truck":
                    baru.setData(new Truck());
                    break;

        }

        baru.getData().setWaktudatang(d);
        baru.getData().setWaktuPulang(p);
        baru.getData().setNoKendaraan(plat);
        baru.next = null;
        return baru;
    }


    //Insert
    public void insertFirst(ElementList baru){
        if(this.first == null){
            this.first = baru;
        }

        else{
            baru.next = this.first;
            this.first = baru;
        }
    }


    public void insertLast(ElementList baru){
        if(this.first == null){
```

```java
                this.first = baru;

        }


        else{

            ElementList last = first;

            while(last.next !=null){

                last = last.next;

            }


            last.next = baru;

        }

    }

    //Searching

    public ElementList search(String no){

        ElementList hasilCari = this.first;

        int found = 0;


        while(hasilCari!=null && found == 0){


if(hasilCari.getData().getNoKendaraan().compar
eTo(no) == 0){

                found = 1;

            }


            else{

                hasilCari = hasilCari.next;

            }

        }

        return hasilCari;
```

```java
        }


    public void editData(String wDatang,String
wKeluar,ElementList data){

        data.getData().setWaktudatang(new
Waktu(wDatang));

        data.getData().setWaktuPulang(new
Waktu(wKeluar));


        }


    //Delete

    public void deleteFirst(){

        ElementList hapus;

        if(this.first.next==null){

            hapus = this.first;

            this.first =null;

        }


        else if(this.first ==null){

            System.out.println("Tidak ada yang
dihapus ! ");

        }


        else{

            hapus = this.first;

            this.first = this.first.next;


        }

    }
```

```java
    public void deleteLast(){

        ElementList hapus;

        if(this.first.next==null){

            hapus = this.first;

            this.first =null;

        }


        else if(this.first ==null){

            System.out.println("Tidak ada yang
dihapus ! ");

        }


        else{

            ElementList b4last = first;

            while(b4last.next.next !=null){

                b4last = b4last.next;

            }


            hapus = b4last.next.next;

            b4last.next = null;


        }
    }



    //Traversal

    public String printData(){
```

```java
        String hasil = " ";



        hasil =
hasil.concat("\t\t\t\tRekapitulasi Biaya
parkir PT Parkir Jaya\n");

        if(this.first == null){

            hasil =  hasil.concat("List Kosong
! \n");

        }




        else{

            int no = 1;

            hasil =
hasil.concat("=================================
=================================================
=================================================
====\n");

            hasil = hasil.concat("No\tNo
Kendaraan\tJenis\tJam Masuk\tJam Pulang\tLama
Parkir\tLama jam\tBiaya\n");

            hasil =
hasil.concat("=================================
=================================================
=================================================
====\n");

            ElementList bantu = this.first;

            do{



                hasil = hasil.concat(

                    no + "\t" +


bantu.getData().getNoKendaraan() + "\t\t" +


bantu.getData().getJenis()+ "\t" +
```

```java
                    bantu.getData().getWaktudatang().getWaktu() +
"\t" +

                    bantu.getData().getWaktuPulang().getWaktu() +
"\t" +

                    bantu.getData().getLamaParkir().getWaktu() +
"\t " +

                    bantu.getData().getLamaJam() + "\t" +

                    bantu.getData().getBiayaParkir() + "\t  \n"
                            );
                    no++;


                    bantu = bantu.next;
            } while(bantu!=null);



            hasil =
hasil.concat("==================================================================================================================================
====\n");



        }
        return hasil;
    }


    public int totalBiaya(){

        int total = 0;

        ElementList bantu = this.first;

        while(bantu!=null){
```

```java
                total +=
bantu.getData().getBiayaParkir();

                bantu = bantu.next;

            }



        return total;

    }



    public boolean isEmpty(){

        return this.first == null;

    }



}
```

2. Frame:
   a. Main Menu GUI

```java
/*

 * Click
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ses/license-default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIFo
rms/JFrame.java to edit this template

 */

package ParkirGUI;

import DataStructure.*;

import javax.swing.JOptionPane;



/**

 *

 * @author Windows 10
```

```java
 */

public class MainMenu extends
javax.swing.JFrame {


    /**

     * Creates new form MainMenu

     */

    private LinkedList list;

    public MainMenu(LinkedList list) {

        this.list = list;

        initComponents();

    }


    /**

     * This method is called from within the
constructor to initialize the form.

     * WARNING: Do NOT modify this code. The
content of this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        jLabel11 = new javax.swing.JLabel();

        jPanel1 = new javax.swing.JPanel();

        jLabel1 = new javax.swing.JLabel();

        readButton = new
javax.swing.JButton();
```

```java
        createButton = new
javax.swing.JButton();

        delButton = new javax.swing.JButton();

        exitButton = new
javax.swing.JButton();

        jLabel12 = new javax.swing.JLabel();

        editButton = new
javax.swing.JButton();

        jLabel2 = new javax.swing.JLabel();

        jLabel3 = new javax.swing.JLabel();

        jLabel4 = new javax.swing.JLabel();

        jLabel5 = new javax.swing.JLabel();



        jLabel11.setText("Copyright : Amir
Salim");




setDefaultCloseOperation(javax.swing.WindowCon
stants.EXIT_ON_CLOSE);




jPanel1.setBorder(javax.swing.BorderFactory.cr
eateBevelBorder(javax.swing.border.BevelBorder
.RAISED));




        jLabel1.setFont(new
java.awt.Font("Stencil", 0, 24)); // NOI18N

        jLabel1.setText("Parkir Kendaraan");



        javax.swing.GroupLayout jPanel1Layout
= new javax.swing.GroupLayout(jPanel1);

        jPanel1.setLayout(jPanel1Layout);

        jPanel1Layout.setHorizontalGroup(
```

```java
        jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, jPanel1Layout.createSequentialGroup()

                .addContainerGap(76,
Short.MAX_VALUE)

                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 249,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(59, 59, 59))

        );

        jPanel1Layout.setVerticalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

            .addComponent(jLabel1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 54,
Short.MAX_VALUE)

        );



        readButton.setText("Lihat Semua
Data");

        readButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

readButtonActionPerformed(evt);

            }

        });



        createButton.setText("Tambah Data");
```

```java
        createButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {


createButtonActionPerformed(evt);

            }

        });



        delButton.setText("Hapus Data");

        delButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

                delButtonActionPerformed(evt);

            }

        });



        exitButton.setText("Keluar");

        exitButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {


exitButtonActionPerformed(evt);

            }

        });



        jLabel12.setText("Copyright : ");
```

```java
        editButton.setText("Ubah Data");

        editButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

editButtonActionPerformed(evt);

            }

        });


        jLabel2.setText("- Amir Salim");


        jLabel3.setText("- Andre Nathaniel
Adipraja");


        jLabel4.setText("- Ibrahim Dafi
Iskandar");


        jLabel5.setText("- Prames Ray
Lapian");


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)
```

```java
.addGroup(layout.createSequentialGroup()

                    .addContainerGap()

                    .addComponent(jPanel1,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))


.addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()

                        .addGap(116,
116, 116)


.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)


.addComponent(readButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addComponent(createButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addComponent(delButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addComponent(exitButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addComponent(editButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)))


.addGroup(layout.createSequentialGroup()
```

```java
                .addContainerGap()


.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)


.addComponent(jLabel12,
javax.swing.GroupLayout.PREFERRED_SIZE, 133,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addComponent(jLabel2)


.addComponent(jLabel4)


.addComponent(jLabel5))))
                                .addGap(0, 0,
Short.MAX_VALUE)))
                .addContainerGap())


.addGroup(layout.createSequentialGroup()
                .addContainerGap()

                .addComponent(jLabel3)


.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE))
        );

        layout.setVerticalGroup(


layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()
                .addContainerGap()

                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addGap(18, 18, 18)

                    .addComponent(readButton)

                    .addGap(18, 18, 18)

                    .addComponent(createButton)

                    .addGap(18, 18, 18)

                    .addComponent(editButton)

                    .addGap(18, 18, 18)

                    .addComponent(delButton)

                    .addGap(18, 18, 18)

                    .addComponent(exitButton)

                    .addGap(18, 18,
Short.MAX_VALUE)

                    .addComponent(jLabel12,
javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addComponent(jLabel2)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addComponent(jLabel5)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addComponent(jLabel4)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addComponent(jLabel3)

                    .addGap(31, 31, 31))

            );
```

```java
        pack();

    }// </editor-fold>


    private void changeToCreateMenu(){

        CreateMenu obj = new
CreateMenu(this.list);

        obj.setVisible(true);

        dispose();

    }


    private void changeToEditMenu(){

        EditMenu obj = new
EditMenu(this.list);

        obj.hideAll();

        obj.setVisible(true);

        dispose();

    }

    private void changeToReadMenu(){

        ReadMenu obj = new
ReadMenu(this.list);

        if(this.list.isEmpty()==true)

        {

JOptionPane.showMessageDialog(null, "Data
kosong ! ", "Error", 1);

        }


        else{

        obj.addTable();
```

```java
        obj.setVisible(true);

        dispose();

        }

    }




    private void changeToDelMenu(){

        DeletMenu obj = new
DeletMenu(this.list);

        obj.setVisible(true);

        dispose();

    }

    private void
createButtonActionPerformed(java.awt.event.Act
ionEvent evt) {

        // TODO add your handling code here:

        changeToCreateMenu();

    }




    private void
delButtonActionPerformed(java.awt.event.Action
Event evt) {

        // TODO add your handling code here:

        changeToDelMenu();

    }




    private void
exitButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        // TODO add your handling code here:
```

```java
        System.exit(0);

    }



    private void
readButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        // TODO add your handling code here:

        changeToReadMenu();

    }



    private void
editButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        this.changeToEditMenu();

    }



    /**

     * @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/uis
wing/lookandfeel/plaf.html

         */

        try {
```

```java
            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(MainMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>


        /* Create and display the form */
```

```java
        java.awt.EventQueue.invokeLater(new
Runnable() {

            public void run() {



            }

        });

    }



    // Variables declaration - do not modify

    private javax.swing.JButton createButton;

    private javax.swing.JButton delButton;

    private javax.swing.JButton editButton;

    private javax.swing.JButton exitButton;

    private javax.swing.JLabel jLabel1;

    private javax.swing.JLabel jLabel11;

    private javax.swing.JLabel jLabel12;

    private javax.swing.JLabel jLabel2;

    private javax.swing.JLabel jLabel3;

    private javax.swing.JLabel jLabel4;

    private javax.swing.JLabel jLabel5;

    private javax.swing.JPanel jPanel1;

    private javax.swing.JButton readButton;

    // End of variables declaration

}
```

b. Create Menu GUI

```
/*
```

```java
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licen
ses/license-default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIFo
rms/JFrame.java to edit this template

 */

package ParkirGUI;

import Kendaraan.*;

import javax.swing.JOptionPane;

import DataStructure.*;

import Waktu.Waktu;

import java.text.SimpleDateFormat;



/**

 *

 * @author Windows 10

 */

public class CreateMenu extends
javax.swing.JFrame {


    /**

     * Creates new form CreateMenu

     */

    private LinkedList list;

    public CreateMenu(LinkedList list) {

        this.list = list;

        initComponents();

    }
```

```java
    /**

     * This method is called from within the
constructor to initialize the form.

     * WARNING: Do NOT modify this code. The
content of this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        jPasswordField1 = new
javax.swing.JPasswordField();

        timePicker1 = new
com.raven.swing.TimePicker();

        jPanel1 = new javax.swing.JPanel();

        jLabel1 = new javax.swing.JLabel();

        jPanel2 = new javax.swing.JPanel();

        jLabel2 = new javax.swing.JLabel();

        insertCombobox = new
javax.swing.JComboBox<>();

        jLabel3 = new javax.swing.JLabel();

        kendaraanComboBox = new
javax.swing.JComboBox<>();

        jLabel4 = new javax.swing.JLabel();

        platField = new
javax.swing.JTextField();

        jPanel3 = new javax.swing.JPanel();

        jLabel5 = new javax.swing.JLabel();

        jmasukField = new
javax.swing.JTextField();
```

```
        jPanel4 = new javax.swing.JPanel();

        jLabel8 = new javax.swing.JLabel();

        jkeluarField = new
javax.swing.JTextField();

        systemButton2 = new
javax.swing.JButton();

        inputButton = new
javax.swing.JButton();

        backButton = new
javax.swing.JButton();




jPasswordField1.setText("jPasswordField1");




setDefaultCloseOperation(javax.swing.WindowCon
stants.EXIT_ON_CLOSE);




jPanel1.setBorder(javax.swing.BorderFactory.cr
eateBevelBorder(javax.swing.border.BevelBorder
.RAISED));




        jLabel1.setFont(new
java.awt.Font("Stencil", 0, 24)); // NOI18N

        jLabel1.setText("Parkir Kendaraan");




        javax.swing.GroupLayout jPanel1Layout
= new javax.swing.GroupLayout(jPanel1);

        jPanel1.setLayout(jPanel1Layout);

        jPanel1Layout.setHorizontalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)
```

```java
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()

                            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 249, javax.swing.GroupLayout.PREFERRED_SIZE)

                            .addGap(94, 94, 94))
            );

            jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.DEFAULT_SIZE, 54, Short.MAX_VALUE)

            );

jPanel2.setBorder(javax.swing.BorderFactory.createTitledBorder("Input Data"));

            jLabel2.setText("Metode Penambahan :");

            insertCombobox.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "<Masukkan Penambahan>", "Insert First", "Insert Last" }));

            insertCombobox.addActionListener(new java.awt.event.ActionListener() {

                public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
                insertComboboxActionPerformed(evt);

            }

        });


        jLabel3.setText("Jenis Kendaraan
:");


        kendaraanComboBox.setModel(new
javax.swing.DefaultComboBoxModel<>(new
String[] { "<Pilih Kendaraan>", "Motor",
"Mobil", "Truck" }));


kendaraanComboBox.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {


kendaraanComboBoxActionPerformed(evt);

            }

        });


        jLabel4.setText("Plat Nomor
:");


        platField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

                platFieldActionPerformed(evt);

            }

        });
```

```java
jPanel3.setBorder(javax.swing.BorderFactory.createTitledBorder("Waktu Masuk"));

        jLabel5.setText("Waktu  :");

        jmasukField.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jmasukFieldActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(
            jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
                .addComponent(jLabel5)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jmasukField, javax.swing.GroupLayout.DEFAULT_SIZE, 129, Short.MAX_VALUE)
                .addContainerGap())
        );
```

```java
        jPanel3Layout.setVerticalGroup(

jPanel3Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

.addGroup(jPanel3Layout.createSequentialGroup(
)

                .addGap(13, 13, 13)

.addGroup(jPanel3Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                    .addComponent(jLabel5)

                    .addComponent(jmasukField,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE))

        );




jPanel4.setBorder(javax.swing.BorderFactory.cr
eateTitledBorder("Waktu Keluar"));



        jLabel8.setText("Waktu    :");



        jkeluarField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

jkeluarFieldActionPerformed(evt);

            }

        });
```

```java
        systemButton2.setText("Dapatkan Waktu Sekarang");

        systemButton2.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                systemButton2ActionPerformed(evt);

            }

        });


        javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);

        jPanel4.setLayout(jPanel4Layout);

        jPanel4Layout.setHorizontalGroup(

            jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(jPanel4Layout.createSequentialGroup()

                .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                    .addGroup(jPanel4Layout.createSequentialGroup()

                        .addComponent(jLabel8)

                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

                        .addComponent(jkeluarField, javax.swing.GroupLayout.DEFAULT_SIZE, 125, Short.MAX_VALUE))
```

```java
                    .addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, jPanel4Layout.createSequentialGroup()

                                .addGap(0, 0,
Short.MAX_VALUE)


.addComponent(systemButton2)))

                    .addContainerGap())

            );

            jPanel4Layout.setVerticalGroup(


jPanel4Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(jPanel4Layout.createSequentialGroup(
)

                    .addGap(13, 13, 13)


.addGroup(jPanel4Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                        .addComponent(jLabel8)


.addComponent(jkeluarField,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGap(104, 104, 104)

                    .addComponent(systemButton2)


.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE))

            );



            javax.swing.GroupLayout jPanel2Layout
= new javax.swing.GroupLayout(jPanel2);

            jPanel2.setLayout(jPanel2Layout);
```

```
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup(
)

            .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup(
)

                    .addComponent(jPanel3,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)

                    .addComponent(jPanel4,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(jPanel2Layout.createSequentialGroup(
)

.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING,
false)

.addComponent(jLabel3,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
```

```java
                        .addComponent(jLabel2,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))


.addComponent(jLabel4))


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)


.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING,
false)


.addComponent(platField)


.addComponent(insertCombobox, 0,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)


.addComponent(kendaraanComboBox, 0,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))


.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE))

            );

        jPanel2Layout.setVerticalGroup(


jPanel2Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(jPanel2Layout.createSequentialGroup(
)

                .addContainerGap()


.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                    .addComponent(jLabel2)
```

```java
                    .addComponent(insertCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))


                    .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)


                    .addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)


                    .addComponent(kendaraanComboBox,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                            .addComponent(jLabel3))


                    .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)


                    .addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                            .addComponent(jLabel4)

                            .addComponent(platField,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

                        .addGap(18, 18, 18)


                    .addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING,
false)

                            .addComponent(jPanel4,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                            .addComponent(jPanel3,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
```

```java
                .addContainerGap(38,
Short.MAX_VALUE))
        );


        inputButton.setText("Masukkan Data");

        inputButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

inputButtonActionPerformed(evt);

            }

        });


        backButton.setText("Kembali Ke Menu");

        backButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

backButtonActionPerformed(evt);

            }

        });


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)
```

```java
                        .addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, layout.createSequentialGroup()

                                .addContainerGap()


                        .addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.TRAILING)

                                .addComponent(jPanel2,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                                .addComponent(jPanel1,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

                                .addContainerGap())


                        .addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, layout.createSequentialGroup()

                                .addGap(0, 0, Short.MAX_VALUE)

                                .addComponent(inputButton)


                        .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                                .addComponent(backButton))

                );

                layout.setVerticalGroup(


layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)


                        .addGroup(layout.createSequentialGroup()

                                .addContainerGap()

                                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```java
                    .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)

                    .addComponent(jPanel2,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(77, 77, 77)


.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.BASELINE)

                        .addComponent(inputButton)

                        .addComponent(backButton))

                    .addContainerGap(28,
Short.MAX_VALUE))

            );



        pack();

    }// </editor-fold>



    private void
platFieldActionPerformed(java.awt.event.Action
Event evt) {

        // TODO add your handling code here:

    }



    private void
jmasukFieldActionPerformed(java.awt.event.Acti
onEvent evt) {

        // TODO add your handling code here:

    }



    private void
jkeluarFieldActionPerformed(java.awt.event.Act
ionEvent evt) {
```

```java
        // TODO add your handling code here:

    }


    private void inputData(){




    Waktu d = new Waktu(0,0,0);

    Waktu k = new Waktu (0,0,0);


d.setWaktuFromString(jmasukField.getText());


k.setWaktuFromString(jkeluarField.getText());

    ElementList baru =
this.list.createElmnt(platField.getText(),kend
araanComboBox.getSelectedItem().toString(), d,
k);




if(insertCombobox.getSelectedItem()=="Insert
First"){

        this.list.insertFirst(baru);

    }



    else{

        this.list.insertLast(baru);



    }



    JOptionPane.showMessageDialog(null, "Data
berhasil di insert ! ", "Sukses", 1);



    }
```

```java
    private void
inputButtonActionPerformed(java.awt.event.Acti
onEvent evt) {

        // TODO add your handling code here:

        inputData();

    }

 private void backToMain(){

        MainMenu obj = new
MainMenu(this.list);

        obj.setVisible(true);

        dispose();

    }

    private void
backButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        // TODO add your handling code here:

        backToMain();

    }



    private void
kendaraanComboBoxActionPerformed(java.awt.even
t.ActionEvent evt) {

        // TODO add your handling code here:

    }



    private void
insertComboboxActionPerformed(java.awt.event.A
ctionEvent evt) {

        // TODO add your handling code here:

    }

    private void setTimeStampNowForDatang(){
```

```java
        String timeStamp = new
SimpleDateFormat("HH:mm:ss").format(new
java.util.Date());

        jmasukField.setText(timeStamp);

    }

            private void
setTimeStampNowForKeluar(){

        String timeStamp = new
SimpleDateFormat("HH:mm:ss").format(new
java.util.Date());

        jkeluarField.setText(timeStamp);

    }

    private void
systemButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        this.setTimeStampNowForKeluar();

    }


    /**

     * @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/uis
wing/lookandfeel/plaf.html

         */

        try {
```

```java
            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(CreateMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

            java.util.logging.Logger.getLogger(CreateMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (IllegalAccessException ex) {

            java.util.logging.Logger.getLogger(CreateMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

            java.util.logging.Logger.getLogger(CreateMenu.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

        }

        //</editor-fold>


        /* Create and display the form */
```

```java
        java.awt.EventQueue.invokeLater(new Runnable() {

            public void run() {

            }

        });

    }


    // Variables declaration - do not modify

    private javax.swing.JButton backButton;

    private javax.swing.JButton inputButton;

    private javax.swing.JComboBox<String> insertCombobox;

    private javax.swing.JLabel jLabel1;

    private javax.swing.JLabel jLabel2;

    private javax.swing.JLabel jLabel3;

    private javax.swing.JLabel jLabel4;

    private javax.swing.JLabel jLabel5;

    private javax.swing.JLabel jLabel8;

    private javax.swing.JPanel jPanel1;

    private javax.swing.JPanel jPanel2;

    private javax.swing.JPanel jPanel3;

    private javax.swing.JPanel jPanel4;

    private javax.swing.JPasswordField jPasswordField1;

    private javax.swing.JTextField jkeluarField;

    private javax.swing.JTextField jmasukField;

    private javax.swing.JComboBox<String> kendaraanComboBox;
```

```java
    private javax.swing.JTextField platField;

    private javax.swing.JButton systemButton2;

    private com.raven.swing.TimePicker
timePicker1;

    // End of variables declaration

}
```

c. Edit Menu GUI

```java
/*
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licen
ses/license-default.txt to change this license
 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIFo
rms/JFrame.java to edit this template
 */

package ParkirGUI;

import Kendaraan.*;

import javax.swing.JOptionPane;

import DataStructure.*;

import Waktu.Waktu;

import java.text.SimpleDateFormat;


/**
 *
 * @author Windows 10
 */

public class EditMenu extends
javax.swing.JFrame {
```

```java
    /**

     * Creates new form CreateMenu

     */

    private LinkedList list;

    private ElementList hCari;

    public EditMenu(LinkedList list) {

        this.list = list;

        initComponents();

    }


    /**

     * This method is called from within the
constructor to initialize the form.

     * WARNING: Do NOT modify this code. The
content of this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        jPasswordField1 = new
javax.swing.JPasswordField();

        timePicker1 = new
com.raven.swing.TimePicker();

        buttonGroup1 = new
javax.swing.ButtonGroup();

        jPanel1 = new javax.swing.JPanel();

        jLabel1 = new javax.swing.JLabel();

        jPanel2 = new javax.swing.JPanel();
```

```java
        jLabel4 = new javax.swing.JLabel();

        platField = new
javax.swing.JTextField();

        masukPanel = new javax.swing.JPanel();

        jLabel5 = new javax.swing.JLabel();

        jmasukField = new
javax.swing.JTextField();

        keluarPanel = new
javax.swing.JPanel();

        jLabel8 = new javax.swing.JLabel();

        jkeluarField = new
javax.swing.JTextField();

        systemButton2 = new
javax.swing.JButton();

        cariButton = new
javax.swing.JButton();

        editButton = new
javax.swing.JButton();

        backButton = new
javax.swing.JButton();




jPasswordField1.setText("jPasswordField1");




setDefaultCloseOperation(javax.swing.WindowCon
stants.EXIT_ON_CLOSE);




jPanel1.setBorder(javax.swing.BorderFactory.cr
eateBevelBorder(javax.swing.border.BevelBorder
.RAISED));




        jLabel1.setFont(new
java.awt.Font("Stencil", 0, 24)); // NOI18N
```

```java
        jLabel1.setText("Parkir Kendaraan");


        javax.swing.GroupLayout jPanel1Layout
= new javax.swing.GroupLayout(jPanel1);

        jPanel1.setLayout(jPanel1Layout);

        jPanel1Layout.setHorizontalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, jPanel1Layout.createSequentialGroup()


.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE)

                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 249,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(94, 94, 94))

        );

        jPanel1Layout.setVerticalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

            .addComponent(jLabel1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 54,
Short.MAX_VALUE)

        );




jPanel2.setBorder(javax.swing.BorderFactory.cr
eateTitledBorder("Input Data"));



        jLabel4.setText("Plat Nomor
:");
```

```java
        platField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

                platFieldActionPerformed(evt);

            }

        });




masukPanel.setBorder(javax.swing.BorderFactory
.createTitledBorder("Waktu Masuk"));




        jLabel5.setText("Waktu   :");




        jmasukField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {


jmasukFieldActionPerformed(evt);

            }

        });




        javax.swing.GroupLayout
masukPanelLayout = new
javax.swing.GroupLayout(masukPanel);


masukPanel.setLayout(masukPanelLayout);

        masukPanelLayout.setHorizontalGroup(


masukPanelLayout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)
```

```java
            .addGroup(masukPanelLayout.createSequentialGro
up()

                .addComponent(jLabel5)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)

                .addComponent(jmasukField,
javax.swing.GroupLayout.DEFAULT_SIZE, 129,
Short.MAX_VALUE)

                .addContainerGap())
        );

        masukPanelLayout.setVerticalGroup(


masukPanelLayout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)


            .addGroup(masukPanelLayout.createSequentialGro
up()

                .addGap(13, 13, 13)


.addGroup(masukPanelLayout.createParallelGroup
(javax.swing.GroupLayout.Alignment.BASELINE)

                    .addComponent(jLabel5)

                    .addComponent(jmasukField,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addContainerGap(133,
Short.MAX_VALUE))
        );




keluarPanel.setBorder(javax.swing.BorderFactor
y.createTitledBorder("Waktu Keluar"));




        jLabel8.setText("Waktu    :");
```

```java
        jkeluarField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

jkeluarFieldActionPerformed(evt);

            }

        });




        systemButton2.setText("Dapatkan Waktu
Sekarang");

        systemButton2.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

systemButton2ActionPerformed(evt);

            }

        });




        javax.swing.GroupLayout
keluarPanelLayout = new
javax.swing.GroupLayout(keluarPanel);

keluarPanel.setLayout(keluarPanelLayout);

        keluarPanelLayout.setHorizontalGroup(

keluarPanelLayout.createParallelGroup(javax.sw
ing.GroupLayout.Alignment.LEADING)

.addGroup(keluarPanelLayout.createSequentialGr
oup()
```

```
                        .addGroup(keluarPanelLayout.createParallelGrou
p(javax.swing.GroupLayout.Alignment.LEADING)


                        .addGroup(keluarPanelLayout.createSequentialGr
oup()

                                        .addComponent(jLabel8)


                        .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)


                        .addComponent(jkeluarField,
javax.swing.GroupLayout.DEFAULT_SIZE, 125,
Short.MAX_VALUE))


                        .addGroup(javax.swing.GroupLayout.Alignment.TR
AILING,
keluarPanelLayout.createSequentialGroup()

                                        .addGap(0, 0,
Short.MAX_VALUE)


                        .addComponent(systemButton2)))

                                .addContainerGap())

                        );

                        keluarPanelLayout.setVerticalGroup(


keluarPanelLayout.createParallelGroup(javax.sw
ing.GroupLayout.Alignment.LEADING)


                        .addGroup(keluarPanelLayout.createSequentialGr
oup()

                                .addGap(13, 13, 13)


                        .addGroup(keluarPanelLayout.createParallelGrou
p(javax.swing.GroupLayout.Alignment.BASELINE)

                                        .addComponent(jLabel8)


                        .addComponent(jkeluarField,
```

```java
                javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(104, 104, 104)
                    .addComponent(systemButton2)

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                );


        cariButton.setText("Cari !");
        cariButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {

cariButtonActionPerformed(evt);
            }
        });


        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
.addGroup(jPanel2Layout.createSequentialGroup(
)


.addComponent(masukPanel,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                .addGap(18, 18, 18)


.addComponent(keluarPanel,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addGroup(jPanel2Layout.createSequentialGroup(
)

                                .addComponent(jLabel4)

                                .addGap(18, 18, 18)


.addComponent(platField,
javax.swing.GroupLayout.PREFERRED_SIZE, 130,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)


.addComponent(cariButton)))


.addContainerGap(javax.swing.GroupLayout.DEFAU
LT_SIZE, Short.MAX_VALUE))

            );

        jPanel2Layout.setVerticalGroup(


jPanel2Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(jPanel2Layout.createSequentialGroup(
)
```

```java
                    .addContainerGap()


.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                        .addComponent(jLabel4)

                        .addComponent(platField,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(cariButton))

                    .addGap(18, 18, 18)


.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.LEADING)

                        .addComponent(masukPanel,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(keluarPanel,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addContainerGap(103,
Short.MAX_VALUE))

            );



        editButton.setText("Edit Data");

        editButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {


editButtonActionPerformed(evt);

            }

        });
```

```java
        backButton.setText("Kembali Ke Menu");

        backButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

backButtonActionPerformed(evt);

            }

        });



        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, layout.createSequentialGroup()

                .addContainerGap()

.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.TRAILING)

                    .addComponent(jPanel2,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                    .addComponent(jPanel1,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

                .addContainerGap())

.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, layout.createSequentialGroup()
```

```
                    .addGap(0, 0, Short.MAX_VALUE)

                    .addComponent(editButton)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addComponent(backButton))

        );

        layout.setVerticalGroup(


layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()

                    .addContainerGap()

                    .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)

                    .addComponent(jPanel2,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(77, 77, 77)


.addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.BASELINE)

                        .addComponent(editButton)

                        .addComponent(backButton))

                    .addContainerGap(28,
Short.MAX_VALUE))

        );



        pack();
```

```java
    }// </editor-fold>


    private void
platFieldActionPerformed(java.awt.event.Action
Event evt) {

        // TODO add your handling code here:

    }



    private void
jmasukFieldActionPerformed(java.awt.event.Acti
onEvent evt) {

        // TODO add your handling code here:

    }



    private void
jkeluarFieldActionPerformed(java.awt.event.Act
ionEvent evt) {

        // TODO add your handling code here:

    }



    public void hideAll(){

        masukPanel.setVisible(false);

        keluarPanel.setVisible(false);

        editButton.setVisible(false);

    }



    public void showAll(){

        masukPanel.setVisible(true);

        keluarPanel.setVisible(true);

        editButton.setVisible(true);

    }
```

```java
    private void inputData(){






    JOptionPane.showMessageDialog(null, "Data
berhasil di insert ! ", "Sukses", 1);




    }
    private void
editButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        this.editData();

    }
 private void backToMain(){

        MainMenu obj = new
MainMenu(this.list);

        obj.setVisible(true);

        dispose();

    }
    private void
backButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        // TODO add your handling code here:

        backToMain();

    }
    private void setTimeStampNowForDatang(){

        String timeStamp = new
SimpleDateFormat("HH:mm:ss").format(new
java.util.Date());

        jmasukField.setText(timeStamp);
```

```java
    }

            private void
setTimeStampNowForKeluar(){

        String timeStamp = new
SimpleDateFormat("HH:mm:ss").format(new
java.util.Date());

        jkeluarField.setText(timeStamp);

    }

    private void
systemButton2ActionPerformed(java.awt.event.Ac
tionEvent evt) {

        this.setTimeStampNowForKeluar();

    }



    private void cariData(){


this.hCari=this.list.search(platField.getText(
));

    if(hCari==null){

        JOptionPane.showMessageDialog(null,
"Data Tidak berhasi ditemukan ! ", "Error",
1);

        this.hideAll();

    }



    else{


JOptionPane.showMessageDialog(null, "Data
berhasi ditemukan ! ", "Sukses", 1);

                this.showAll();


jmasukField.setText(this.hCari.getData().getWa
ktudatang().getWaktu());
```

```java
        jkeluarField.setText(this.hCari.getData().getW
aktuPulang().getWaktu());


        }


        }


    private void editData(){


this.list.editData(jmasukField.getText(),
jkeluarField.getText(), hCari);

        JOptionPane.showMessageDialog(null,
"Data Berhasil Di ubah !  ", "Sukses", 1);



        }
    private void
cariButtonActionPerformed(java.awt.event.Actio
nEvent evt) {

        this.cariData();

        }


    /**

     * @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) ">
```

```java
        /* 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/uis
wing/lookandfeel/plaf.html

         */

        try {

            for
(javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels
()) {

                if
("Nimbus".equals(info.getName())) {


javax.swing.UIManager.setLookAndFeel(info.getC
lassName());

                    break;

                }

            }

        } catch (ClassNotFoundException ex) {


java.util.logging.Logger.getLogger(EditMenu.cl
ass.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);

        } catch (InstantiationException ex) {


java.util.logging.Logger.getLogger(EditMenu.cl
ass.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);

        } catch (IllegalAccessException ex) {


java.util.logging.Logger.getLogger(EditMenu.cl
ass.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);

        } catch
(javax.swing.UnsupportedLookAndFeelException
ex) {
```

```java
            java.util.logging.Logger.getLogger(EditMenu.cl
ass.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);

        }

        //</editor-fold>

        //</editor-fold>


        /* Create and display the form */

        java.awt.EventQueue.invokeLater(new
Runnable() {

            public void run() {


            }

        });

    }


    // Variables declaration - do not modify

    private javax.swing.JButton backButton;

    private javax.swing.ButtonGroup
buttonGroup1;

    private javax.swing.JButton cariButton;

    private javax.swing.JButton editButton;

    private javax.swing.JLabel jLabel1;

    private javax.swing.JLabel jLabel4;

    private javax.swing.JLabel jLabel5;

    private javax.swing.JLabel jLabel8;

    private javax.swing.JPanel jPanel1;

    private javax.swing.JPanel jPanel2;

    private javax.swing.JPasswordField
jPasswordField1;
```

```java
    private javax.swing.JTextField
jkeluarField;

    private javax.swing.JTextField
jmasukField;

    private javax.swing.JPanel keluarPanel;

    private javax.swing.JPanel masukPanel;

    private javax.swing.JTextField platField;

    private javax.swing.JButton systemButton2;

    private com.raven.swing.TimePicker
timePicker1;

    // End of variables declaration

}
```

d. Delete Menu GUI

```java
/*

 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licen
ses/license-default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIFo
rms/JFrame.java to edit this template

 */

package ParkirGUI;



import DataStructure.LinkedList;

import javax.swing.JOptionPane;



/**

 *

 * @author Windows 10
```

```java
 */

public class DeletMenu extends
javax.swing.JFrame {


    /**

     * Creates new form DeletMenu

     */

    private LinkedList list;

    public DeletMenu(LinkedList list) {

        this.list = list;

        initComponents();

    }


    /**

     * This method is called from within the
constructor to initialize the form.

     * WARNING: Do NOT modify this code. The
content of this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        jPanel1 = new javax.swing.JPanel();

        jLabel1 = new javax.swing.JLabel();

        jPanel2 = new javax.swing.JPanel();

        jLabel2 = new javax.swing.JLabel();
```

```java
        hapusComboBox = new
javax.swing.JComboBox<>();

        hapusButton = new
javax.swing.JToggleButton();

        KembaliKeMenu = new
javax.swing.JToggleButton();



setDefaultCloseOperation(javax.swing.WindowCon
stants.EXIT_ON_CLOSE);



jPanel1.setBorder(javax.swing.BorderFactory.cr
eateBevelBorder(javax.swing.border.BevelBorder
.RAISED));



        jLabel1.setFont(new
java.awt.Font("Stencil", 0, 24)); // NOI18N

        jLabel1.setText("Parkir Kendaraan");



        javax.swing.GroupLayout jPanel1Layout
= new javax.swing.GroupLayout(jPanel1);

        jPanel1.setLayout(jPanel1Layout);

        jPanel1Layout.setHorizontalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, jPanel1Layout.createSequentialGroup()

                .addContainerGap(70,
Short.MAX_VALUE)

                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 249,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(65, 65, 65))
```

```
            );

            jPanel1Layout.setVerticalGroup(


jPanel1Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

                .addComponent(jLabel1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 54,
Short.MAX_VALUE)

            );



jPanel2.setBorder(javax.swing.BorderFactory.cr
eateTitledBorder("Hapus Data\n"));



            jLabel2.setText("Metode Hapus
:");



            hapusComboBox.setModel(new
javax.swing.DefaultComboBoxModel<>(new
String[] { "<Metode Hapus>", "Delete First",
"Delete Last" }));



            javax.swing.GroupLayout jPanel2Layout
= new javax.swing.GroupLayout(jPanel2);

            jPanel2.setLayout(jPanel2Layout);

            jPanel2Layout.setHorizontalGroup(


jPanel2Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)


.addGroup(jPanel2Layout.createSequentialGroup(
)

                    .addContainerGap()

                    .addComponent(jLabel2)
```

```java
                .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                        .addComponent(hapusComboBox,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addContainerGap(132,
Short.MAX_VALUE))

            );

        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.
GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup(
)

                .addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(ja
vax.swing.GroupLayout.Alignment.BASELINE)

                    .addComponent(jLabel2)

.addComponent(hapusComboBox,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addContainerGap(21,
Short.MAX_VALUE))
            );


        hapusButton.setText("Hapus");

        hapusButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {
```

```java
                hapusButtonActionPerformed(evt);

            }

        });


        KembaliKeMenu.setText("Kembali Ke
Menu");

        KembaliKeMenu.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent
evt) {

                KembaliKeMenuActionPerformed(evt);

            }

        });


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

            layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.LEADING)

                    .addComponent(jPanel2,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
```

```java
                        .addComponent(jPanel1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addGroup(javax.swing.GroupLayout.Alignment.TR
AILING, layout.createSequentialGroup()

                            .addGap(0, 0,
Short.MAX_VALUE)

.addComponent(hapusButton)

.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

.addComponent(KembaliKeMenu)

                        .addGap(18, 18, 18)))
                    .addContainerGap())
            );
            layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLa
yout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.UNRELATED)

                .addComponent(jPanel2,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```java
                    .addPreferredGap(javax.swing.LayoutStyle.Compo
nentPlacement.RELATED)

                    .addGroup(layout.createParallelGroup(javax.swi
ng.GroupLayout.Alignment.BASELINE)

                        .addComponent(hapusButton)

.addComponent(KembaliKeMenu))

                    .addContainerGap(28,
Short.MAX_VALUE))
            );


        pack();

    }// </editor-fold>

 private void backToMain(){

        MainMenu obj = new
MainMenu(this.list);

        obj.setVisible(true);

        dispose();

    }

    private void
KembaliKeMenuActionPerformed(java.awt.event.Ac
tionEvent evt) {

        // TODO add your handling code here:

        backToMain();

    }


    private void delete(){


if(hapusComboBox.getSelectedItem()=="Delete
First"){

        this.list.deleteFirst();
```

```java
        }


        else{

        this.list.deleteLast();

        }



        JOptionPane.showMessageDialog(null,
"Data berhasil di delete ! ", "Sukses", 1);




    }

    private void
hapusButtonActionPerformed(java.awt.event.Acti
onEvent evt) {

        // TODO add your handling code here:

        delete();

    }



    /**

     * @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/uis
wing/lookandfeel/plaf.html
```

```java
        */

        try {

            for
(javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels
()) {

                if
("Nimbus".equals(info.getName())) {


javax.swing.UIManager.setLookAndFeel(info.getC
lassName());

                    break;

                }

            }

        } catch (ClassNotFoundException ex) {


java.util.logging.Logger.getLogger(DeletMenu.c
lass.getName()).log(java.util.logging.Level.SE
VERE, null, ex);

        } catch (InstantiationException ex) {


java.util.logging.Logger.getLogger(DeletMenu.c
lass.getName()).log(java.util.logging.Level.SE
VERE, null, ex);

        } catch (IllegalAccessException ex) {


java.util.logging.Logger.getLogger(DeletMenu.c
lass.getName()).log(java.util.logging.Level.SE
VERE, null, ex);

        } catch
(javax.swing.UnsupportedLookAndFeelException
ex) {


java.util.logging.Logger.getLogger(DeletMenu.c
lass.getName()).log(java.util.logging.Level.SE
VERE, null, ex);

        }

        //</editor-fold>
```

```java
        /* Create and display the form */

        java.awt.EventQueue.invokeLater(new
Runnable() {

            public void run() {


            }

        });

    }



    // Variables declaration - do not modify

    private javax.swing.JToggleButton
KembaliKeMenu;

    private javax.swing.JToggleButton
hapusButton;

    private javax.swing.JComboBox<String>
hapusComboBox;

    private javax.swing.JLabel jLabel1;

    private javax.swing.JLabel jLabel2;

    private javax.swing.JPanel jPanel1;

    private javax.swing.JPanel jPanel2;

    // End of variables declaration
}
```

3. Main:
   a. Main App

```
/*

 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licen
ses/license-default.txt to change this license
```

```java
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Class
es/Class.java to edit this template

 */

package ParkirGUI;

import DataStructure.*;

/**

 *

 * @author Windows 10

 */

public class MainApp {

    public static void main(String[] args){

    LinkedList list = new LinkedList();

    MainMenu m = new MainMenu(list);

    m.setVisible(true);

    }



}
```

ii.   ScreenShot:

PARKIR KENDARAAN

Lihat Semua Data

Tambah Data

Ubah Data

Hapus Data

Keluar

Copyright :

- Amir Salim

- Prames Ray Lapian

- Ibrahim Dafi Iskandar

- Andre Nathaniel Adipraja

PARKIR KENDARAAN

Input Data

Metode Penambahan   :   Insert Last ▼

Jenis Kendaraan   :   Truck ▼

Plat Nomor   :   D 123 ABC

Waktu Masuk

Waktu :   08:00:00

Waktu Keluar

Waktu :   23:07:24

Dapatkan Waktu Sekarang

Masukkan Data   Kembali Ke Menu

PARKIR KENDARAAN

No	No Kendaraan	Jenis	Jam Masuk	Jam Keluar	Lama Parkir	Lama Jam	Biaya
1	D 123 ABC	Truck	08:00:00	23:08:14	15:08:14	16	160000

Kembali Ke Menu

b. Input waktu Sistem
    i.   Source Code:
        1. Class:

2. Frame:

3. Main:

    ii.   ScreenShot:

2. Aplikasi Kalkulator
   a. Source Code
      i. Class Kalkulator

```
/*

 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.jav
a to edit this template

 */

package KalkulatorClass;

import java.lang.Math;




/**

 *

 * @author Windows 10

 */

public class Kalkulator {

    int operator=0;

    double operand1=0.0;
```

```java
    double operand2=0.0;

    double hasil=0.0;


    public void setOperand(String opr) {
        if(!opr.equals("")){
            if(operator==0){
                operand1=Double.valueOf(opr);
            }
            else{
                operand2=Double.valueOf(opr);
            }
        }
    }


    public void setOperator(int operator) {
        this.operator = operator;
    }


    public void setOperand1(double operand1) {
        this.operand1 = operand1;
    }


    public void setOperand2(double operand2) {
        this.operand2 = operand2;
    }


    public void setHasil(double hasil) {
        this.hasil = hasil;
```

```java
    }

    public double getHasil() {
        return hasil;
    }

    public double getOperand1() {
        return operand1;
    }

    public double getOperand2() {
        return operand2;
    }

    public double processFactorial(double hitung){
        double jadi = 1;
        for(int i=1;i<=hitung;i++){
            jadi*=i;
        }

        return jadi;
    }

    public void process(){
        switch (operator){
            case 1:
                hasil = operand1 + operand2;
                break;
```

```
        case 2:
                hasil = operand1 - operand2;
                break;
        case 3:
                hasil = operand1 * operand2;
                break;
        case 4:
                hasil = operand1 / operand2;
                break;


        case 5:
                hasil = (operand1/100)*operand2;
                break;
        case 6:
                hasil = Math.sqrt(operand1);
                break;
        case 7:
                hasil = operand1*operand1;
                break;


        case 8:
                hasil = Math.sin(operand1);
                break;


        case 9:
                hasil = Math.cos(operand1);
                break;
```

```java
            case 10:
                hasil = Math.tan(operand1);
                break;


            case 11:
                hasil = Math.exp(operand1);
                break;


            case 12:
                hasil = Math.toRadians(operand1);
                break;


            case 13:
                hasil = this.processFactorial(operand1);
                break;



            default:
                hasil = operand1;
        }
        operand1=hasil;
    }


}
```

ii.   GUI Kalkulator Biasa

```
/*
```

```java
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.j
ava to edit this template

 */

package KalkulatorGUI;

import KalkulatorClass.Kalkulator;

import java.text.DecimalFormat;

import javax.swing.KeyStroke;


/**

 *

 * @author Windows 10

 */

public class KalkulatorGUI extends javax.swing.JFrame {

    private String operand;

    private Kalkulator obj;

    /**

     * Creates new form KalkulatorGUI

     */



    public KalkulatorGUI(Kalkulator obj,String operand) {

        this.obj = obj;

        this.operand = operand;

        initComponents();

    }
```

```java
    /**

     * This method is called from within the constructor
to initialize the form.

     * WARNING: Do NOT modify this code. The content of
this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        plusButton1 = new javax.swing.JButton();

        plusButton6 = new javax.swing.JButton();

        inputField = new javax.swing.JTextField();

        clearButton = new javax.swing.JButton();

        plusButton = new javax.swing.JButton();

        minusButton = new javax.swing.JButton();

        timesButton = new javax.swing.JButton();

        divButton = new javax.swing.JButton();

        eqButton = new javax.swing.JButton();

        numOneButton = new javax.swing.JButton();

        numTwoButton = new javax.swing.JButton();

        numThreeButton = new javax.swing.JButton();

        numSixButton = new javax.swing.JButton();

        numFourButton = new javax.swing.JButton();

        numFiveButton = new javax.swing.JButton();

        numSevenButton = new javax.swing.JButton();

        numEightButton = new javax.swing.JButton();
```

```java
        numNineButton = new javax.swing.JButton();

        comButton = new javax.swing.JButton();

        numZeroButton = new javax.swing.JButton();

        switchToMain = new javax.swing.JButton();



        plusButton1.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        plusButton1.setText("+");

        plusButton1.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                plusButton1ActionPerformed(evt);

            }

        });



        plusButton6.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        plusButton6.setText("*");

        plusButton6.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                plusButton6ActionPerformed(evt);

            }

        });



setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_
ON_CLOSE);



        inputField.setEditable(false);
```

```java
        inputField.setDisabledTextColor(new
java.awt.Color(255, 255, 255));

        inputField.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                inputFieldActionPerformed(evt);

            }

        });


        clearButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        clearButton.setMnemonic('C');

        clearButton.setText("C");

        clearButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                clearButtonActionPerformed(evt);

            }

        });


        plusButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        plusButton.setMnemonic('+');

        plusButton.setText("+");

        plusButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                plusButtonActionPerformed(evt);

            }
```

```java
        });


        minusButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        minusButton.setMnemonic('-');

        minusButton.setText("-");

        minusButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                minusButtonActionPerformed(evt);

            }

        });


        timesButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        timesButton.setMnemonic('*');

        timesButton.setText("*");

        timesButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                timesButtonActionPerformed(evt);

            }

        });


        divButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        divButton.setMnemonic('/');

        divButton.setText("/");

        divButton.addActionListener(new
java.awt.event.ActionListener() {
```

```java
            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                divButtonActionPerformed(evt);

            }

        });


        eqButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        eqButton.setMnemonic('=');

        eqButton.setText("=");

        eqButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                eqButtonActionPerformed(evt);

            }

        });


        numOneButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        numOneButton.setMnemonic('1');

        numOneButton.setText("1");

        numOneButton.addFocusListener(new
java.awt.event.FocusAdapter() {

            public void
focusGained(java.awt.event.FocusEvent evt) {

                numOneButtonFocusGained(evt);

            }

        });

        numOneButton.addActionListener(new
java.awt.event.ActionListener() {
```

```java
            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numOneButtonActionPerformed(evt);

            }

        });

        numOneButton.addKeyListener(new
java.awt.event.KeyAdapter() {

            public void keyPressed(java.awt.event.KeyEvent
evt) {

                numOneButtonKeyPressed(evt);

            }

            public void
keyReleased(java.awt.event.KeyEvent evt) {

                numOneButtonKeyReleased(evt);

            }

            public void keyTyped(java.awt.event.KeyEvent
evt) {

                numOneButtonKeyTyped(evt);

            }

        });


        numTwoButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        numTwoButton.setMnemonic('2');

        numTwoButton.setText("2");

        numTwoButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numTwoButtonActionPerformed(evt);

            }

        });
```

```java
        numThreeButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numThreeButton.setMnemonic('3');

        numThreeButton.setText("3");

        numThreeButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numThreeButtonActionPerformed(evt);

            }

        });


        numSixButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        numSixButton.setMnemonic('6');

        numSixButton.setText("6");

        numSixButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numSixButtonActionPerformed(evt);

            }

        });


        numFourButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numFourButton.setMnemonic('4');

        numFourButton.setText("4");

        numFourButton.addActionListener(new
java.awt.event.ActionListener() {
```

```java
            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numFourButtonActionPerformed(evt);

            }

        });


        numFiveButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N

        numFiveButton.setMnemonic('5');

        numFiveButton.setText("5");

        numFiveButton.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numFiveButtonActionPerformed(evt);

            }

        });


        numSevenButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N

        numSevenButton.setMnemonic('7');

        numSevenButton.setText("7");

        numSevenButton.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numSevenButtonActionPerformed(evt);

            }

        });


        numEightButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N
```

```java
        numEightButton.setMnemonic('8');

        numEightButton.setText("8");

        numEightButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numEightButtonActionPerformed(evt);

            }

        });


        numNineButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numNineButton.setMnemonic('9');

        numNineButton.setText("9");

        numNineButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numNineButtonActionPerformed(evt);

            }

        });


        comButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        comButton.setMnemonic('.');

        comButton.setText(".");

        comButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                comButtonActionPerformed(evt);

            }
```

```java
        });


        numZeroButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numZeroButton.setMnemonic('0');

        numZeroButton.setText("0");

        numZeroButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numZeroButtonActionPerformed(evt);

            }

        });


        switchToMain.setText("Kembali Ke Menu");

        switchToMain.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                switchToMainActionPerformed(evt);

            }

        });


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()
```

```
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)

                        .addComponent(inputField)


.addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING, false)

                            .addComponent(clearButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 257,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()


.addComponent(numOneButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 76,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                        .addGap(18, 18,
18)


.addComponent(numTwoButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addGroup(layout.createSequentialGroup()


.addComponent(numFourButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 76,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                        .addGap(18, 18,
18)


.addComponent(numFiveButton,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addGroup(layout.createSequentialGroup()


.addComponent(numSevenButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 76,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addGap(18, 18,
18)


.addComponent(numEightButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addComponent(numZeroButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 162,
javax.swing.GroupLayout.PREFERRED_SIZE))

                                    .addGap(26, 26, 26)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)


.addComponent(numSixButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)


.addComponent(numThreeButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)


.addComponent(numNineButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)


.addComponent(comButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))

                                .addGap(25, 25, 25)
```

```java
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)
                                    .addComponent(minusButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                    .addComponent(plusButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                    .addComponent(divButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 69, Short.MAX_VALUE)
                                    .addComponent(eqButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 69, Short.MAX_VALUE)
                                    .addComponent(timesButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))

            .addGroup(layout.createSequentialGroup()
                            .addComponent(switchToMain)
                            .addGap(0, 0, Short.MAX_VALUE)))
                .addContainerGap())
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addContainerGap()
                    .addComponent(inputField,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)
```

```
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING, false)

                        .addComponent(clearButton,
javax.swing.GroupLayout.DEFAULT_SIZE, 48, Short.MAX_VALUE)

                        .addComponent(plusButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()

                            .addComponent(minusButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                            .addGap(18, 18, 18)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)


.addGroup(layout.createSequentialGroup()

                                .addComponent(timesButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                .addGap(18, 18, 18)

                                .addComponent(divButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                .addGap(18, 18, 18)

                                .addComponent(eqButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE))

                            .addComponent(numSixButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)))
```

```java
                .addGroup(layout.createSequentialGroup()


                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)


                                    .addComponent(numOneButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(numTwoButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(numThreeButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE))

                                .addGap(19, 19, 19)


                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)


                                    .addComponent(numFourButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(numFiveButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE))

                                .addGap(18, 18, 18)


                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)


                                    .addComponent(numEightButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(numSevenButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(numNineButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE))

                                .addGap(17, 17, 17)
```

```java
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                                    .addComponent(numZeroButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(comButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE))))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)

                    .addComponent(switchToMain,
javax.swing.GroupLayout.DEFAULT_SIZE, 45, Short.MAX_VALUE)

                    .addContainerGap())
        );



        pack();

    }// </editor-fold>

    public void getOperand(javax.swing.JButton button){

        operand+=button.getText();

        obj.setOperand(operand);

        inputField.setText(operand);

    }



    private void getOperator(int opt){

        obj.setOperator(opt);

        operand="";

    }

    private void proses(){

        DecimalFormat df = new
DecimalFormat("#,###.########");

        obj.process();
```

```java
        operand = "";

        inputField.setText(df.format(obj.getHasil())+"");

    }



    private void Bersih(){

        operand = "";

        obj.setOperator(0);

        obj.setHasil(0);

        inputField.setText("0");

    }




    private void
inputFieldActionPerformed(java.awt.event.ActionEvent evt)
{



    }



    private void
clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        Bersih();

    }



    private void
plusButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(1);

    }
```

```java
    private void
plusButton1ActionPerformed(java.awt.event.ActionEvent evt)
{



        }



    private void
minusButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(2);

        }



    private void
timesButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(3);

        }



    private void
divButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(4);

        }



    private void
eqButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.proses();

        }



    private void
plusButton6ActionPerformed(java.awt.event.ActionEvent evt)
{

        // TODO add your handling code here:

        }
```

```java
    private void
numOneButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numOneButton);

    }




    private void
numTwoButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numTwoButton);

    }




    private void
numThreeButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numThreeButton);

    }




    private void
numSixButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numSixButton);

    }




    private void
numFourButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numFourButton);

    }




    private void
numFiveButtonActionPerformed(java.awt.event.ActionEvent
evt) {
```

```java
        this.getOperand(numFiveButton);

    }


    private void
numSevenButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numSevenButton);

    }


    private void
numEightButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numEightButton);

    }


    private void
numNineButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numNineButton);

    }


    private void
comButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperand(comButton);

    }


    private void
numZeroButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numZeroButton);

    }
```

```java
    private void numOneButtonKeyPressed(java.awt.event.KeyEvent evt) {


    }


    private void numOneButtonKeyTyped(java.awt.event.KeyEvent evt) {


    }


    private void numOneButtonKeyReleased(java.awt.event.KeyEvent evt) {


    }


    private void numOneButtonFocusGained(java.awt.event.FocusEvent evt) {

        // TODO add your handling code here:


    }


    private void switchToMainActionPerformed(java.awt.event.ActionEvent evt) {

        Menu obj = new Menu();

        obj.setVisible(true);

        dispose();

    }


    /**

     * @param args the command line arguments
```

```java
    */

    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/lookand
feel/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(KalkulatorGUI.class.get
Name()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(KalkulatorGUI.class.get
Name()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(KalkulatorGUI.class.get
Name()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch
(javax.swing.UnsupportedLookAndFeelException ex) {
```

```java
            java.util.logging.Logger.getLogger(KalkulatorGUI.class.get
Name()).log(java.util.logging.Level.SEVERE, null, ex);

        }

        //</editor-fold>


        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {

            public void run() {


            }

        });

    }


    // Variables declaration - do not modify
    private javax.swing.JButton clearButton;

    private javax.swing.JButton comButton;

    private javax.swing.JButton divButton;

    private javax.swing.JButton eqButton;

    private javax.swing.JTextField inputField;

    private javax.swing.JButton minusButton;

    private javax.swing.JButton numEightButton;

    private javax.swing.JButton numFiveButton;

    private javax.swing.JButton numFourButton;

    private javax.swing.JButton numNineButton;

    private javax.swing.JButton numOneButton;

    private javax.swing.JButton numSevenButton;

    private javax.swing.JButton numSixButton;

    private javax.swing.JButton numThreeButton;
```

```java
    private javax.swing.JButton numTwoButton;

    private javax.swing.JButton numZeroButton;

    private javax.swing.JButton plusButton;

    private javax.swing.JButton plusButton1;

    private javax.swing.JButton plusButton6;

    private javax.swing.JButton switchToMain;

    private javax.swing.JButton timesButton;

    // End of variables declaration
}
```

iii. GUI Kalkulator Scientific

```java
/*

 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license

 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.j
ava to edit this template

 */

package KalkulatorGUI;


import KalkulatorClass.Kalkulator;

import java.text.DecimalFormat;


/**

 *

 * @author Windows 10

 */

public class KalkulatorSGUI extends javax.swing.JFrame {

    private String operand;
```

```java
    private Kalkulator obj;



    /**

     * Creates new form KalkulatorSGUI

     */

    public KalkulatorSGUI(Kalkulator obj,String operand) {

        this.obj = obj;

        this.operand = operand;

        initComponents();

    }



    /**

     * This method is called from within the constructor
to initialize the form.

     * WARNING: Do NOT modify this code. The content of
this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {



        jButton5 = new javax.swing.JButton();

        numOneButton = new javax.swing.JButton();

        numNineButton = new javax.swing.JButton();

        numTwoButton = new javax.swing.JButton();

        comButton = new javax.swing.JButton();

        minusButton = new javax.swing.JButton();
```

```java
        numThreeButton = new javax.swing.JButton();

        numZeroButton = new javax.swing.JButton();

        numSixButton = new javax.swing.JButton();

        timesButton = new javax.swing.JButton();

        divButton = new javax.swing.JButton();

        numFourButton = new javax.swing.JButton();

        eqButton = new javax.swing.JButton();

        numFiveButton = new javax.swing.JButton();

        inputField = new javax.swing.JTextField();

        clearButton = new javax.swing.JButton();

        plusButton = new javax.swing.JButton();

        numSevenButton = new javax.swing.JButton();

        numEightButton = new javax.swing.JButton();

        percentButton = new javax.swing.JButton();

        factButton = new javax.swing.JButton();

        rootButton = new javax.swing.JButton();

        squareButton = new javax.swing.JButton();

        expButton = new javax.swing.JButton();

        sinButton = new javax.swing.JButton();

        cosButton = new javax.swing.JButton();

        tanButton = new javax.swing.JButton();

        radButton = new javax.swing.JButton();

        switchToMenu = new javax.swing.JButton();


        jButton5.setText("jButton5");

        jButton5.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {
```

```java
                    jButton5ActionPerformed(evt);

            }

        });




setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_
ON_CLOSE);




        numOneButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        numOneButton.setMnemonic('1');

        numOneButton.setText("1");

        numOneButton.addFocusListener(new
java.awt.event.FocusAdapter() {

            public void
focusGained(java.awt.event.FocusEvent evt) {

                numOneButtonFocusGained(evt);

            }

        });

        numOneButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numOneButtonActionPerformed(evt);

            }

        });

        numOneButton.addKeyListener(new
java.awt.event.KeyAdapter() {

            public void keyPressed(java.awt.event.KeyEvent
evt) {

                numOneButtonKeyPressed(evt);

            }
```

```java
            public void
keyReleased(java.awt.event.KeyEvent evt) {

                numOneButtonKeyReleased(evt);

            }

            public void keyTyped(java.awt.event.KeyEvent
evt) {

                numOneButtonKeyTyped(evt);

            }

        });




        numNineButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numNineButton.setMnemonic('9');

        numNineButton.setText("9");

        numNineButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numNineButtonActionPerformed(evt);

            }

        });




        numTwoButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        numTwoButton.setMnemonic('2');

        numTwoButton.setText("2");

        numTwoButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numTwoButtonActionPerformed(evt);

            }
```

```java
        });


        comButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        comButton.setMnemonic('.');

        comButton.setText(".");

        comButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                comButtonActionPerformed(evt);

            }

        });


        minusButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        minusButton.setMnemonic('-');

        minusButton.setText("-");

        minusButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                minusButtonActionPerformed(evt);

            }

        });


        numThreeButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numThreeButton.setMnemonic('3');

        numThreeButton.setText("3");

        numThreeButton.addActionListener(new
java.awt.event.ActionListener() {
```

```java
            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numThreeButtonActionPerformed(evt);

            }

        });


        numZeroButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N

        numZeroButton.setMnemonic('0');

        numZeroButton.setText("0");

        numZeroButton.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numZeroButtonActionPerformed(evt);

            }

        });


        numSixButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N

        numSixButton.setMnemonic('6');

        numSixButton.setText("6");

        numSixButton.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {

                numSixButtonActionPerformed(evt);

            }

        });


        timesButton.setFont(new java.awt.Font("Segoe UI", 0, 24)); // NOI18N
```

```java
        timesButton.setMnemonic('*');

        timesButton.setText("*");

        timesButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                timesButtonActionPerformed(evt);

            }

        });


        divButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        divButton.setMnemonic('/');

        divButton.setText("/");

        divButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                divButtonActionPerformed(evt);

            }

        });


        numFourButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numFourButton.setMnemonic('4');

        numFourButton.setText("4");

        numFourButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numFourButtonActionPerformed(evt);

            }
```

```java
        });


        eqButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        eqButton.setMnemonic('=');

        eqButton.setText("=");

        eqButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                eqButtonActionPerformed(evt);

            }

        });


        numFiveButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numFiveButton.setMnemonic('5');

        numFiveButton.setText("5");

        numFiveButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numFiveButtonActionPerformed(evt);

            }

        });


        inputField.setEditable(false);

        inputField.setDisabledTextColor(new
java.awt.Color(255, 255, 255));

        inputField.addActionListener(new
java.awt.event.ActionListener() {
```

```java
            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                inputFieldActionPerformed(evt);

            }

        });


        clearButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        clearButton.setMnemonic('C');

        clearButton.setText("C");

        clearButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                clearButtonActionPerformed(evt);

            }

        });


        plusButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        plusButton.setMnemonic('+');

        plusButton.setText("+");

        plusButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                plusButtonActionPerformed(evt);

            }

        });


        numSevenButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N
```

```java
        numSevenButton.setMnemonic('7');

        numSevenButton.setText("7");

        numSevenButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numSevenButtonActionPerformed(evt);

            }

        });


        numEightButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        numEightButton.setMnemonic('8');

        numEightButton.setText("8");

        numEightButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                numEightButtonActionPerformed(evt);

            }

        });


        percentButton.setFont(new java.awt.Font("Segoe
UI", 0, 24)); // NOI18N

        percentButton.setMnemonic('P');

        percentButton.setText("%");

        percentButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                percentButtonActionPerformed(evt);

            }
```

```java
        });


        factButton.setFont(new java.awt.Font("Segoe UI",
0, 24)); // NOI18N

        factButton.setMnemonic('.');

        factButton.setText("a!");

        factButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                factButtonActionPerformed(evt);

            }

        });


        rootButton.setFont(new java.awt.Font("Segoe UI",
0, 18)); // NOI18N

        rootButton.setMnemonic('.');

        rootButton.setText("√");

        rootButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                rootButtonActionPerformed(evt);

            }

        });


        squareButton.setFont(new java.awt.Font("Segoe UI",
0, 18)); // NOI18N

        squareButton.setMnemonic('.');

        squareButton.setText("a^2");

        squareButton.addActionListener(new
java.awt.event.ActionListener() {
```

```java
        public void
actionPerformed(java.awt.event.ActionEvent evt) {

            squareButtonActionPerformed(evt);

        }

    });


    expButton.setFont(new java.awt.Font("Segoe UI", 0,
18)); // NOI18N

    expButton.setMnemonic('.');

    expButton.setText("exp");

    expButton.addActionListener(new
java.awt.event.ActionListener() {

        public void
actionPerformed(java.awt.event.ActionEvent evt) {

            expButtonActionPerformed(evt);

        }

    });


    sinButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

    sinButton.setMnemonic('.');

    sinButton.setText("sin");

    sinButton.addActionListener(new
java.awt.event.ActionListener() {

        public void
actionPerformed(java.awt.event.ActionEvent evt) {

            sinButtonActionPerformed(evt);

        }

    });


    cosButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N
```

```java
        cosButton.setMnemonic('.');

        cosButton.setText("cos");

        cosButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                cosButtonActionPerformed(evt);

            }

        });


        tanButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        tanButton.setMnemonic('.');

        tanButton.setText("tan");

        tanButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                tanButtonActionPerformed(evt);

            }

        });


        radButton.setFont(new java.awt.Font("Segoe UI", 0,
24)); // NOI18N

        radButton.setMnemonic('.');

        radButton.setText("rad");

        radButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                radButtonActionPerformed(evt);

            }
```

```java
            });


        switchToMenu.setText("Kembali Ke Menu");

        switchToMenu.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                switchToMenuActionPerformed(evt);

            }

        });


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)

                    .addComponent(inputField,
javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING, false)

.addGroup(layout.createSequentialGroup()

.addComponent(numOneButton,
```

```java
                                javax.swing.GroupLayout.PREFERRED_SIZE, 76,
                                javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(18, 18, 18)


                                .addComponent(numTwoButton,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 68,
                                javax.swing.GroupLayout.PREFERRED_SIZE))


                                .addGroup(layout.createSequentialGroup()


                                .addComponent(numFourButton,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 76,
                                javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(18, 18, 18)


                                .addComponent(numFiveButton,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 68,
                                javax.swing.GroupLayout.PREFERRED_SIZE))


                                .addGroup(layout.createSequentialGroup()


                                .addComponent(numSevenButton,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 76,
                                javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(18, 18, 18)


                                .addComponent(numEightButton,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 68,
                                javax.swing.GroupLayout.PREFERRED_SIZE))
                                        .addComponent(numZeroButton,
                                javax.swing.GroupLayout.DEFAULT_SIZE,
                                javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                        .addComponent(clearButton,
                                javax.swing.GroupLayout.DEFAULT_SIZE,
                                javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))


                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
                                t.UNRELATED)
```

```java
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                              .addComponent(numSixButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(numThreeButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(numNineButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(comButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(percentButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGap(18, 18, 18)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                              .addComponent(divButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(timesButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(minusButton,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(plusButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                              .addComponent(eqButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
```

```java
.addGroup(layout.createSequentialGroup()

                        .addComponent(factButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addGap(18, 18, 18)

                        .addComponent(rootButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addGap(18, 18, 18)

                        .addComponent(squareButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED, 8, Short.MAX_VALUE)

                        .addComponent(expButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addGroup(layout.createSequentialGroup()

                        .addComponent(sinButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addGap(18, 18, 18)

                        .addComponent(cosButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addGap(18, 18, 18)

                        .addComponent(tanButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

                        .addComponent(radButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
                    .addGroup(layout.createSequentialGroup()

                                .addComponent(switchToMenu)

                                .addGap(0, 0, Short.MAX_VALUE)))

                    .addContainerGap())

            );

        layout.setVerticalGroup(


layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addComponent(inputField,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.TRAILING, false)

                        .addComponent(percentButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                        .addComponent(clearButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE, 48, Short.MAX_VALUE)

                        .addComponent(plusButton,
javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)
```

```
.addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                        .addComponent(numOneButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(numTwoButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(numThreeButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGap(18, 18, 18)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                        .addComponent(numFourButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(numFiveButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(numSixButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(timesButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGap(18, 18, 18)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                        .addComponent(numEightButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(numSevenButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                        .addComponent(numNineButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(divButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

                    .addGap(17, 17, 17)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                        .addComponent(numZeroButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(comButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(eqButton,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

                    .addGap(35, 35, 35)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                        .addComponent(factButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(rootButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(squareButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(expButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.UNRELATED)
```

```java
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)

                                    .addComponent(sinButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(cosButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(tanButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                    .addComponent(radButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.UNRELATED)

                            .addComponent(switchToMenu,
javax.swing.GroupLayout.DEFAULT_SIZE, 46, Short.MAX_VALUE)

                            .addGap(9, 9, 9))


.addGroup(layout.createSequentialGroup()

                            .addComponent(minusButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 42,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))

        );



        pack();

    }// </editor-fold>

 public void getOperand(javax.swing.JButton button){

        operand+=button.getText();

        obj.setOperand(operand);

        inputField.setText(operand);
```

```java
        }


    private void getOperator(int opt){

        obj.setOperator(opt);

        operand="";

    }

    private void proses(){

        DecimalFormat df = new
DecimalFormat("#,###.########");

        obj.process();

        operand = "";

        inputField.setText(df.format(obj.getHasil())+"");

    }


    private void Bersih(){

        operand = "";

        obj.setOperator(0);

        obj.setHasil(0);

        inputField.setText("0");

    }

    private void
numOneButtonFocusGained(java.awt.event.FocusEvent evt) {

        // TODO add your handling code here:



    }


    private void
numOneButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numOneButton);
```

```java
    }


    private void
numOneButtonKeyPressed(java.awt.event.KeyEvent evt) {

        if(evt.getKeyChar()=='1'){

            this.getOperand(numOneButton);

        }

    }


    private void
numOneButtonKeyReleased(java.awt.event.KeyEvent evt) {



    }


    private void
numOneButtonKeyTyped(java.awt.event.KeyEvent evt) {



    }


    private void
numNineButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numNineButton);

    }


    private void
numTwoButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numTwoButton);

    }
```

```java
    private void
comButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperand(comButton);

    }



    private void
minusButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(2);

    }



    private void
numThreeButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numThreeButton);

    }



    private void
numZeroButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numZeroButton);

    }



    private void
numSixButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numSixButton);

    }



    private void
timesButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(3);
```

```java
        }


    private void
divButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(4);

    }


    private void
numFourButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numFourButton);

    }


    private void
eqButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.proses();

    }


    private void
numFiveButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numFiveButton);

    }


    private void
inputFieldActionPerformed(java.awt.event.ActionEvent evt)
{



    }


    private void
clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{
```

```java
        Bersih();

    }



    private void
plusButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(1);

    }



    private void
numSevenButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numSevenButton);

    }



    private void
numEightButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperand(numEightButton);

    }



    private void
jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:

    }



    private void
percentButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperator(5);

    }
```

```java
    private void
factButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(13);

    }



    private void
rootButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        this.getOperator(6);

    }



    private void
squareButtonActionPerformed(java.awt.event.ActionEvent
evt) {

        this.getOperator(7);

    }



    private void
expButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(11);

    }



    private void
sinButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(8);

    }



    private void
cosButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(9);

    }
```

```java
    private void
tanButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(10);

    }



    private void
radButtonActionPerformed(java.awt.event.ActionEvent evt) {

        this.getOperator(12);

    }



    private void
switchToMenuActionPerformed(java.awt.event.ActionEvent
evt) {

        Menu obj = new Menu();

        obj.setVisible(true);

        dispose();

    }



    /**

     * @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/lookand
feel/plaf.html

         */
```

```java
        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(KalkulatorSGUI.class.ge
tName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(KalkulatorSGUI.class.ge
tName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(KalkulatorSGUI.class.ge
tName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch
(javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(KalkulatorSGUI.class.ge
tName()).log(java.util.logging.Level.SEVERE, null, ex);

        }

        //</editor-fold>


        /* Create and display the form */

        java.awt.EventQueue.invokeLater(new Runnable() {

            public void run() {
```

```java
            }

        });

    }


    // Variables declaration - do not modify
    private javax.swing.JButton clearButton;

    private javax.swing.JButton comButton;

    private javax.swing.JButton cosButton;

    private javax.swing.JButton divButton;

    private javax.swing.JButton eqButton;

    private javax.swing.JButton expButton;

    private javax.swing.JButton factButton;

    private javax.swing.JTextField inputField;

    private javax.swing.JButton jButton5;

    private javax.swing.JButton minusButton;

    private javax.swing.JButton numEightButton;

    private javax.swing.JButton numFiveButton;

    private javax.swing.JButton numFourButton;

    private javax.swing.JButton numNineButton;

    private javax.swing.JButton numOneButton;

    private javax.swing.JButton numSevenButton;

    private javax.swing.JButton numSixButton;

    private javax.swing.JButton numThreeButton;

    private javax.swing.JButton numTwoButton;

    private javax.swing.JButton numZeroButton;

    private javax.swing.JButton percentButton;

    private javax.swing.JButton plusButton;

    private javax.swing.JButton radButton;
```

```java
    private javax.swing.JButton rootButton;

    private javax.swing.JButton sinButton;

    private javax.swing.JButton squareButton;

    private javax.swing.JButton switchToMenu;

    private javax.swing.JButton tanButton;

    private javax.swing.JButton timesButton;

    // End of variables declaration

}
```

iv. GUI Menu

```java
/*

 * Click
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default.txt to change this license

 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.j
ava to edit this template

 */

package KalkulatorGUI;



import KalkulatorClass.Kalkulator;



/**

 *

 * @author Windows 10

 */

public class Menu extends javax.swing.JFrame {

    /**

     * Creates new form Menu
```

```java
    */

    public Menu() {

        initComponents();

    }



    /**

     * This method is called from within the constructor
to initialize the form.

     * WARNING: Do NOT modify this code. The content of
this method is always

     * regenerated by the Form Editor.

     */

    @SuppressWarnings("unchecked")

    // <editor-fold defaultstate="collapsed"
desc="Generated Code">

    private void initComponents() {


        jPanel1 = new javax.swing.JPanel();

        jLabel1 = new javax.swing.JLabel();

        basicButton = new javax.swing.JButton();

        sainsButton = new javax.swing.JButton();

        exitButton = new javax.swing.JButton();

        jLabel2 = new javax.swing.JLabel();



setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_
ON_CLOSE);



jPanel1.setBorder(javax.swing.BorderFactory.createEtchedBo
rder());
```

```java
        jLabel1.setFont(new java.awt.Font("STHupo", 0,
36)); // NOI18N

        jLabel1.setText("Kalkulator");


        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);

        jPanel1.setLayout(jPanel1Layout);

        jPanel1Layout.setHorizontalGroup(


jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.
Alignment.LEADING)


.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()

                .addContainerGap(88, Short.MAX_VALUE)

                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 196,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(68, 68, 68))

        );

        jPanel1Layout.setVerticalGroup(


jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.
Alignment.LEADING)


.addGroup(jPanel1Layout.createSequentialGroup()

                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(0, 0, Short.MAX_VALUE))

        );



        basicButton.setFont(new java.awt.Font("Serif", 2,
18)); // NOI18N
```

```java
        basicButton.setText("Basic");

        basicButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                basicButtonActionPerformed(evt);

            }

        });


        sainsButton.setFont(new java.awt.Font("Serif", 2,
18)); // NOI18N

        sainsButton.setText("Scientific");

        sainsButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                sainsButtonActionPerformed(evt);

            }

        });


        exitButton.setFont(new java.awt.Font("Serif", 2,
18)); // NOI18N

        exitButton.setText("Exit");

        exitButton.addActionListener(new
java.awt.event.ActionListener() {

            public void
actionPerformed(java.awt.event.ActionEvent evt) {

                exitButtonActionPerformed(evt);

            }

        });
```

```java
        jLabel2.setText("Copyright :Prames Ray Lapian ,
Amir Salim , Ibrahim Dafi Iskandar , Andre Nathaniel
Adipraja");


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

        getContentPane().setLayout(layout);

        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)

            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

                        .addContainerGap()

                        .addComponent(jLabel2))

.addGroup(layout.createSequentialGroup()

                        .addGap(184, 184, 184)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.TRAILING)

                            .addComponent(exitButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 128,
javax.swing.GroupLayout.PREFERRED_SIZE)

                            .addComponent(sainsButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 128,
javax.swing.GroupLayout.PREFERRED_SIZE)

                            .addComponent(basicButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 128,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addGroup(layout.createSequentialGroup()

                        .addGap(70, 70, 70)
```

```java
                                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))


.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

        );

        layout.setVerticalGroup(


layout.createParallelGroup(javax.swing.GroupLayout.Alignme
nt.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(24, 24, 24)

                .addComponent(basicButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.UNRELATED)

                .addComponent(sainsButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGap(18, 18, 18)

                .addComponent(exitButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)

                .addComponent(jLabel2,
javax.swing.GroupLayout.DEFAULT_SIZE, 74,
Short.MAX_VALUE))
```

```java
        );



        pack();

    }// </editor-fold>



    private void
exitButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        System.exit(0);

    }



    private void
basicButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        Kalkulator kal = new Kalkulator();

        String operand = " ";

        KalkulatorGUI obj = new
KalkulatorGUI(kal,operand);

        obj.setVisible(true);

        dispose();

    }



    private void
sainsButtonActionPerformed(java.awt.event.ActionEvent evt)
{

        Kalkulator kal = new Kalkulator();

        String operand = " ";

        KalkulatorSGUI obj = new
KalkulatorSGUI(kal,operand);

        obj.setVisible(true);

        dispose();

    }
```

```java
    /**

     * @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/lookand
feel/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(Menu.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Menu.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);

        } catch (IllegalAccessException ex) {
```

```java
                java.util.logging.Logger.getLogger(Menu.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);

        } catch
(javax.swing.UnsupportedLookAndFeelException ex) {

                java.util.logging.Logger.getLogger(Menu.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);

        }

        //</editor-fold>



        /* Create and display the form */

        java.awt.EventQueue.invokeLater(new Runnable() {

            public void run() {



            }

        });

    }



    // Variables declaration - do not modify

    private javax.swing.JButton basicButton;

    private javax.swing.JButton exitButton;

    private javax.swing.JLabel jLabel1;

    private javax.swing.JLabel jLabel2;

    private javax.swing.JPanel jPanel1;

    private javax.swing.JButton sainsButton;

    // End of variables declaration

}
```
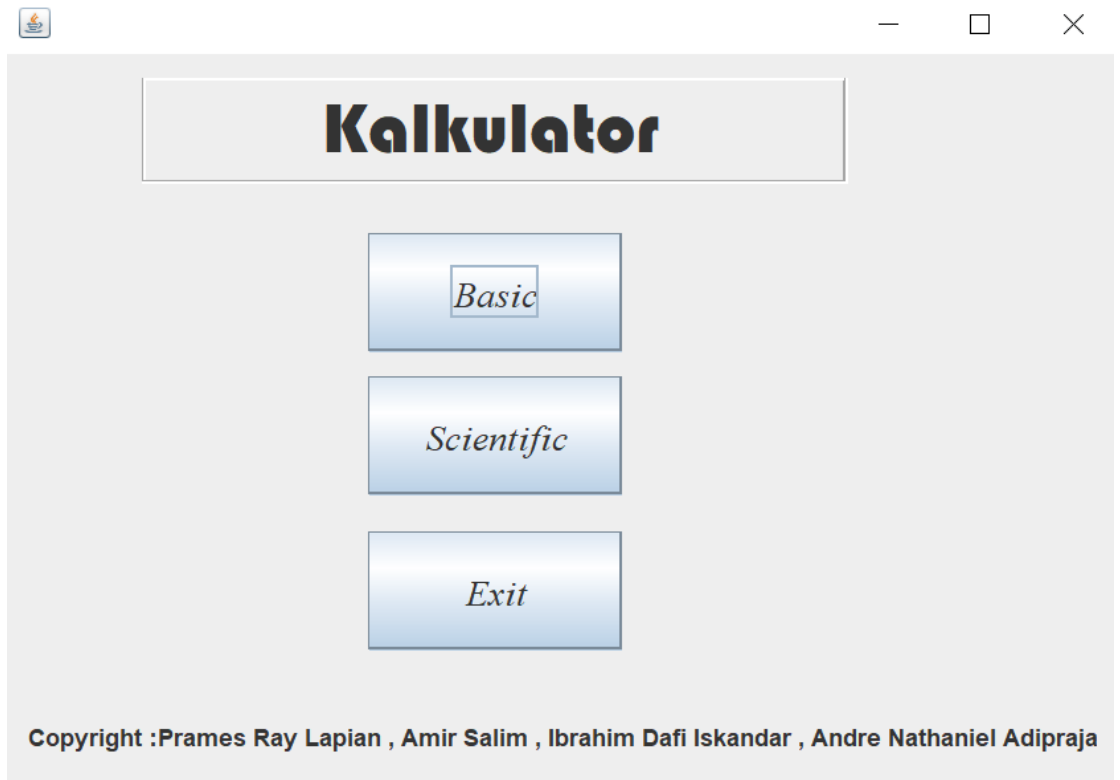
v. Class main

```
/*

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 * Click
nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.jav
a to edit this template

 */

package KalkulatorGUI;

import KalkulatorClass.Kalkulator;


/**

 *

 * @author Windows 10

 */

public class KalkulatorApp {

    public static void main(String[]args){

        Kalkulator obj = new Kalkulator();

        String operand = " ";

        Menu app = new Menu();

        app.setVisible(true);

        app.setLocationRelativeTo(null);

    }


}
```

b. Screen shoot

C		+
1	2	3	-
4	5	6	*
7	8	9	/
0		.	=

Kembali Ke Menu

C		%	±
1	2	3	-
4	5	6	*
7	8	9	/
0		.	=
a!	√	a^2	exp
sin	cos	tan	rad

Kembali Ke Menu