ACTIVITY PERTEMUAN 4

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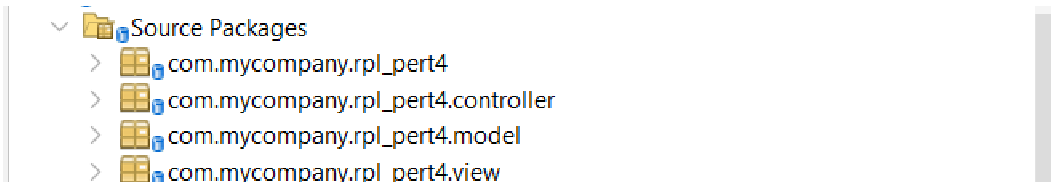
NPM : 5142648

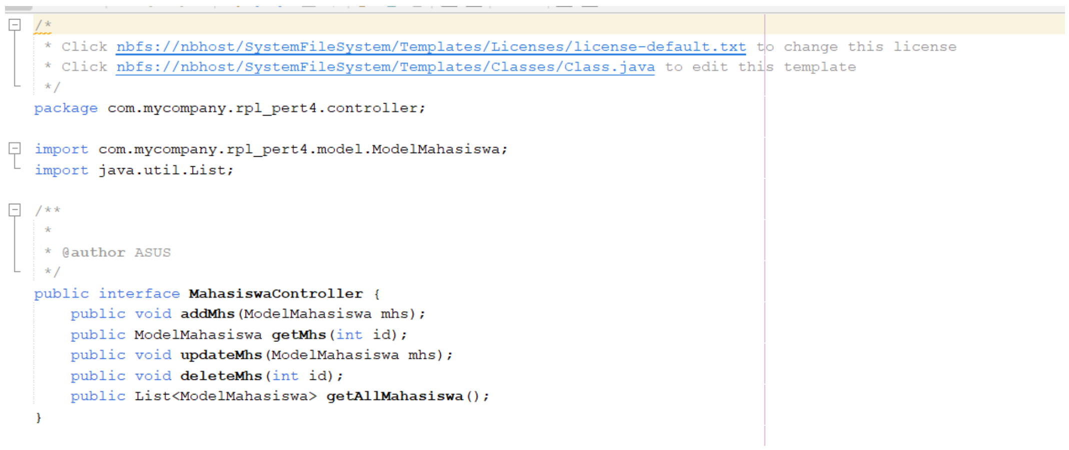
KELAS : 4IA17

MATERI : KONSEP DASAR OBJECT RELATIONAL MAPPING (ORM) DAN FRAMEWORK HIBERNATE

MATA PRAKTIKUM : RPL 2



```
Source Packages
    com.mycompany.rpl_pert4
    com.mycompany.rpl_pert4.controller
    com.mycompany.rpl_pert4.model
    com.mycompany.rpl_pert4.view
```



```java
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package com.mycompany.rpl_pert4.controller;

import com.mycompany.rpl_pert4.model.ModelMahasiswa;
import java.util.List;

/**
 *
 * @author ASUS
 */
public interface MahasiswaController {
    public void addMhs(ModelMahasiswa mhs);
    public ModelMahasiswa getMhs(int id);
    public void updateMhs(ModelMahasiswa mhs);
    public void deleteMhs(int id);
    public List<ModelMahasiswa> getAllMahasiswa();
}
```

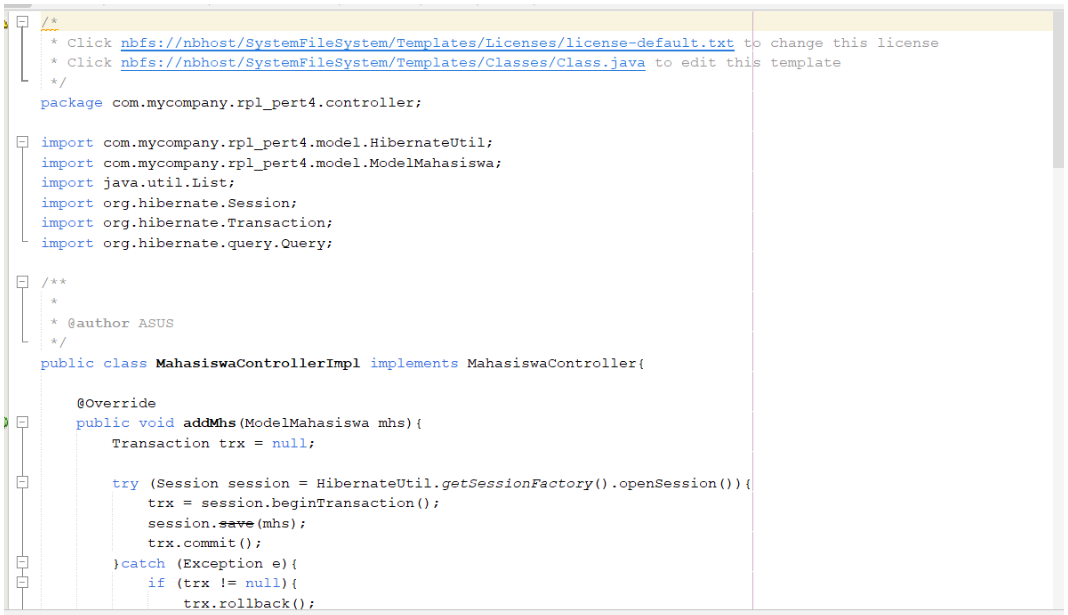

```
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 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package com.mycompany.rpl_pert4.controller;

import com.mycompany.rpl_pert4.model.HibernateUtil;
import com.mycompany.rpl_pert4.model.ModelMahasiswa;
import java.util.List;
import org.hibernate.Session;
import org.hibernate.Transaction;
import org.hibernate.query.Query;

/**
 *
 * @author ASUS
 */
public class MahasiswaControllerImpl implements MahasiswaController{

    @Override
    public void addMhs(ModelMahasiswa mhs){
        Transaction trx = null;

        try (Session session = HibernateUtil.getSessionFactory().openSession()){
            trx = session.beginTransaction();
            session.~~save~~(mhs);
            trx.commit();
        }catch (Exception e){
            if (trx != null){
                trx.rollback();
```
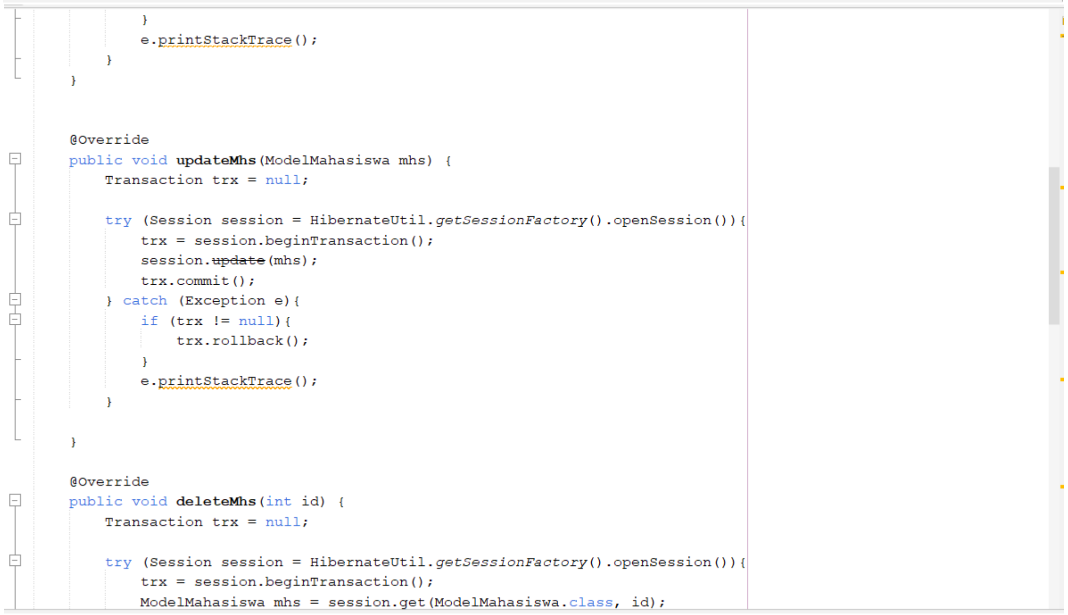
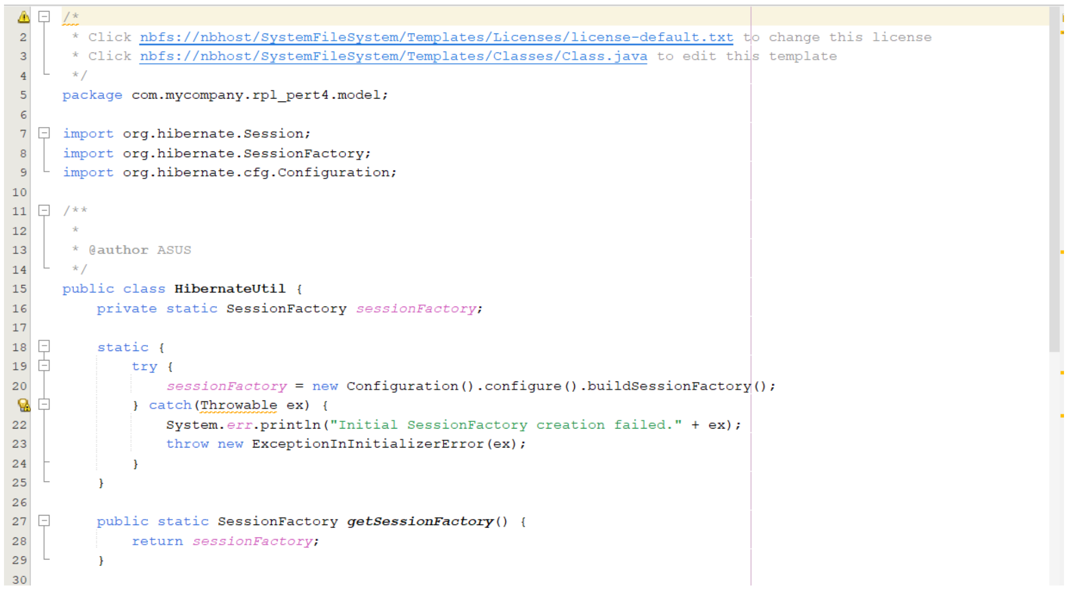



```
            }
            e.printStackTrace();
        }
    }


    @Override
    public void updateMhs(ModelMahasiswa mhs) {
        Transaction trx = null;

        try (Session session = HibernateUtil.getSessionFactory().openSession()){
            trx = session.beginTransaction();
            session.~~update~~(mhs);
            trx.commit();
        } catch (Exception e){
            if (trx != null){
                trx.rollback();
            }
            e.printStackTrace();
        }

    }

    @Override
    public void deleteMhs(int id) {
        Transaction trx = null;

        try (Session session = HibernateUtil.getSessionFactory().openSession()){
            trx = session.beginTransaction();
            ModelMahasiswa mhs = session.get(ModelMahasiswa.class, id);
```



```java
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 */
package com.mycompany.rpl_pert4.model;

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;

/**
 *
 * @author ASUS
 */
public class HibernateUtil {
    private static SessionFactory sessionFactory;

    static {
        try {
            sessionFactory = new Configuration().configure().buildSessionFactory();
        } catch(Throwable ex) {
            System.err.println("Initial SessionFactory creation failed." + ex);
            throw new ExceptionInInitializerError(ex);
        }
    }

    public static SessionFactory getSessionFactory() {
        return sessionFactory;
    }

```
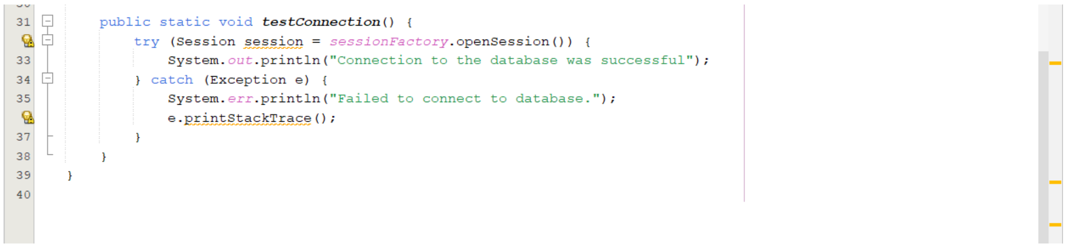
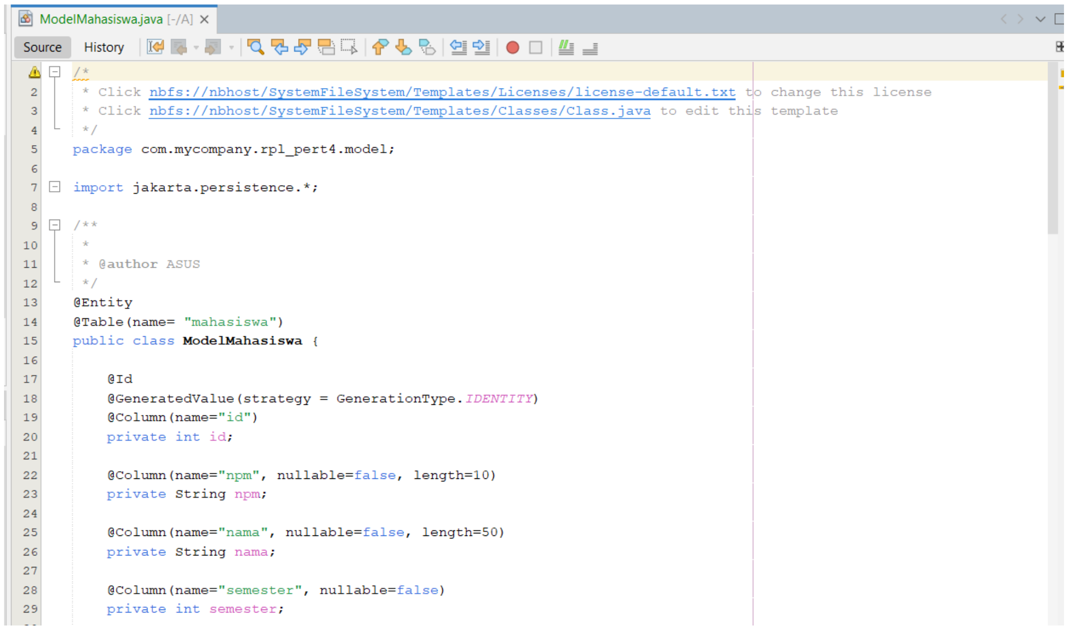



```java
    public static void testConnection() {
        try (Session session = sessionFactory.openSession()) {
            System.out.println("Connection to the database was successful");
        } catch (Exception e) {
            System.err.println("Failed to connect to database.");
            e.printStackTrace();
        }
    }
}

```



ModelMahasiswa.java [-/A]

Source History

```java
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 */
package com.mycompany.rpl_pert4.model;

import jakarta.persistence.*;

/**
 *
 * @author ASUS
 */
@Entity
@Table(name= "mahasiswa")
public class ModelMahasiswa {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    @Column(name="id")
    private int id;

    @Column(name="npm", nullable=false, length=10)
    private String npm;

    @Column(name="nama", nullable=false, length=50)
    private String nama;

    @Column(name="semester", nullable=false)
    private int semester;
```
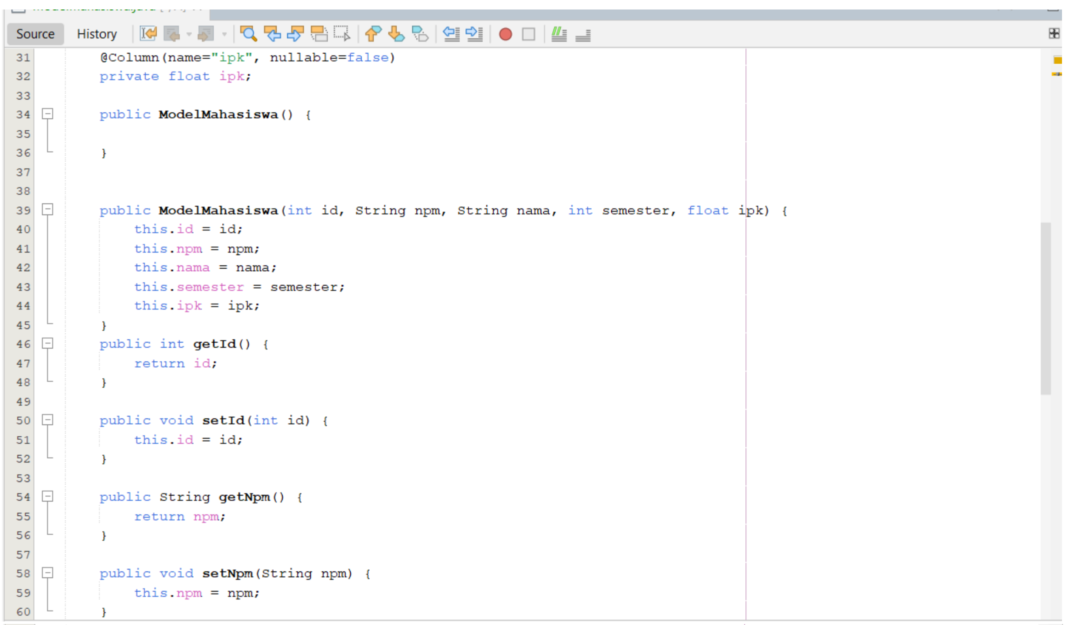
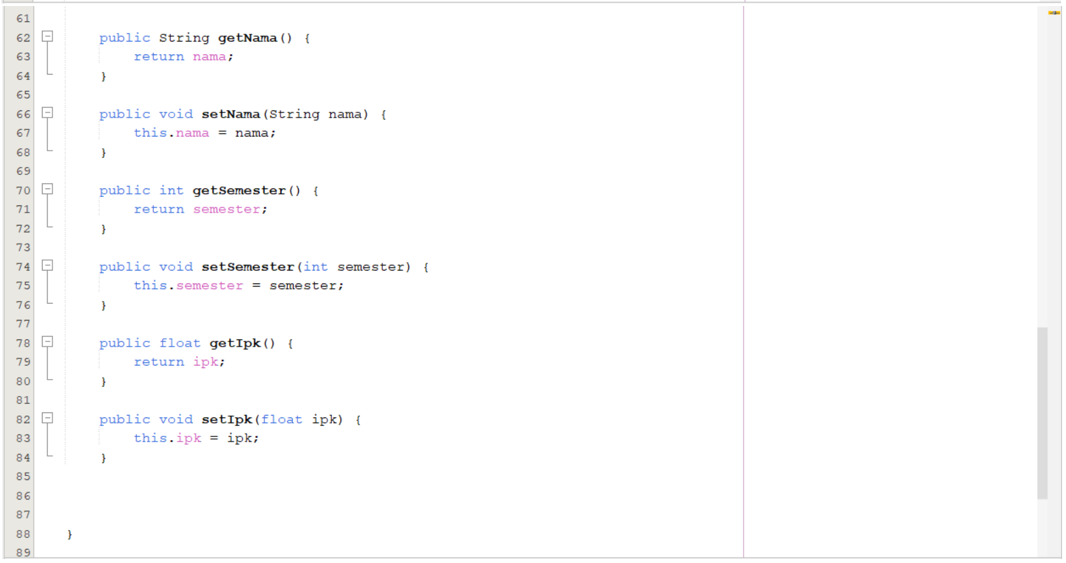



```java
    @Column(name="ipk", nullable=false)
    private float ipk;

    public ModelMahasiswa() {

    }


    public ModelMahasiswa(int id, String npm, String nama, int semester, float ipk) {
        this.id = id;
        this.npm = npm;
        this.nama = nama;
        this.semester = semester;
        this.ipk = ipk;
    }
    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getNpm() {
        return npm;
    }

    public void setNpm(String npm) {
        this.npm = npm;
    }
```



```java

    public String getNama() {
        return nama;
    }

    public void setNama(String nama) {
        this.nama = nama;
    }

    public int getSemester() {
        return semester;
    }

    public void setSemester(int semester) {
        this.semester = semester;
    }

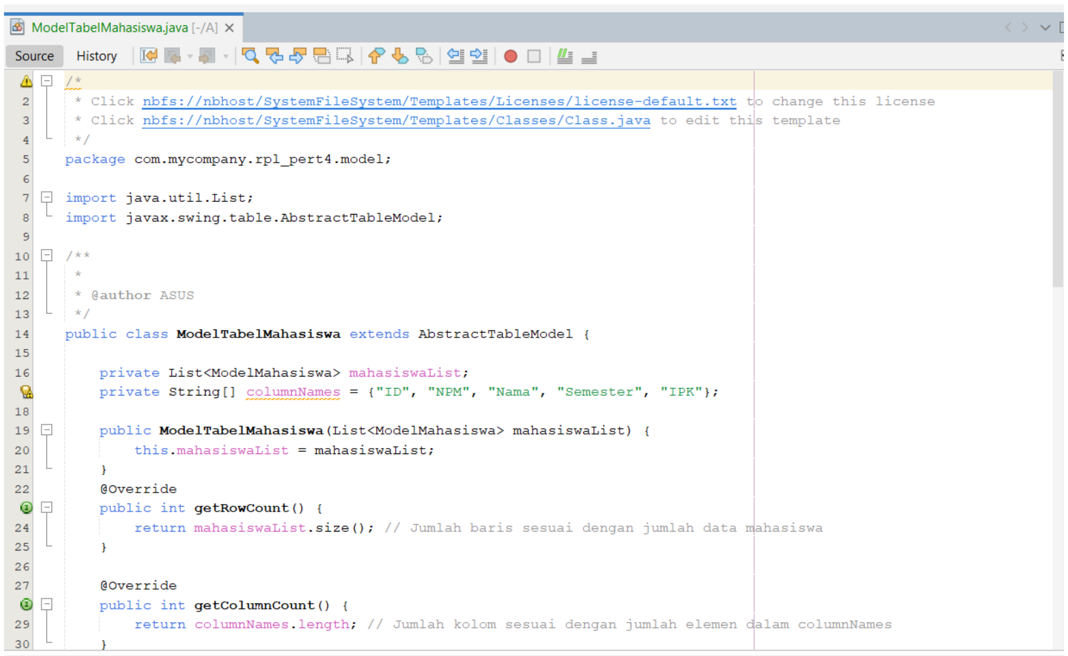
    public float getIpk() {
        return ipk;
    }

    public void setIpk(float ipk) {
        this.ipk = ipk;
    }



}

```



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 */
package com.mycompany.rpl_pert4.model;

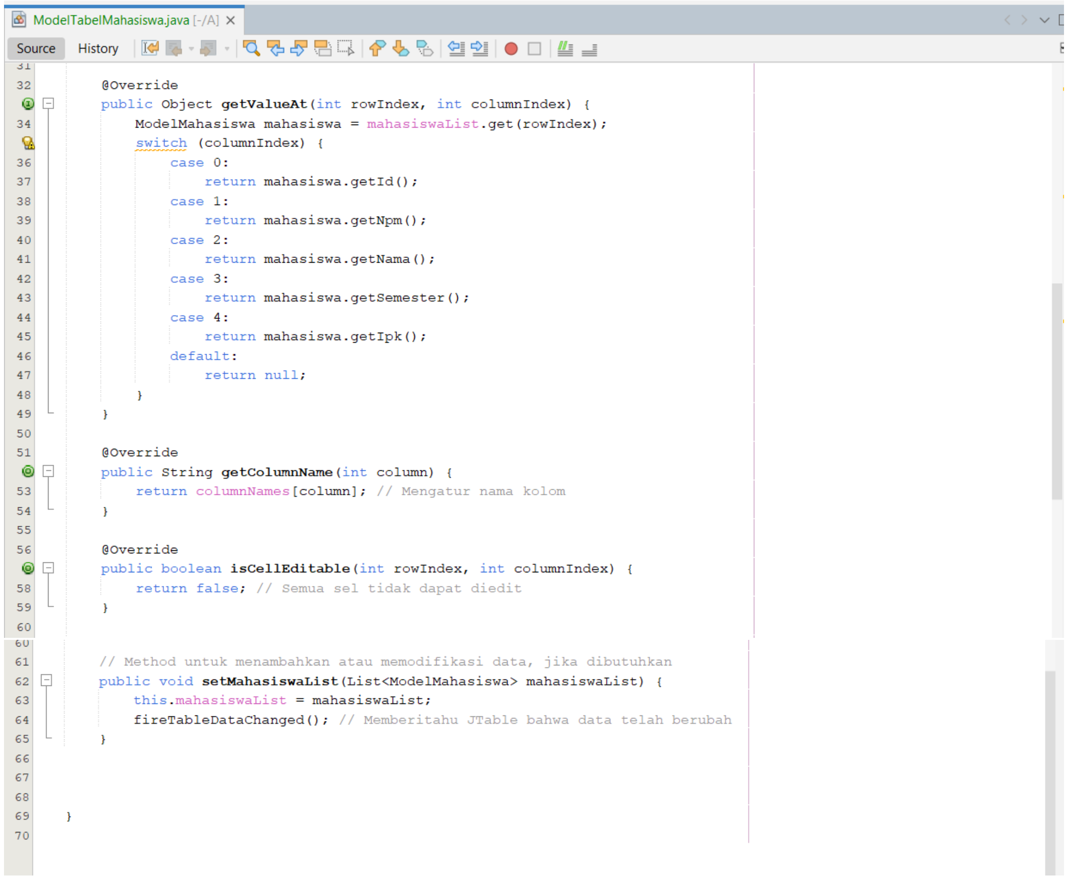
import java.util.List;
import javax.swing.table.AbstractTableModel;

/**
 *
 * @author ASUS
 */
public class ModelTabelMahasiswa extends AbstractTableModel {

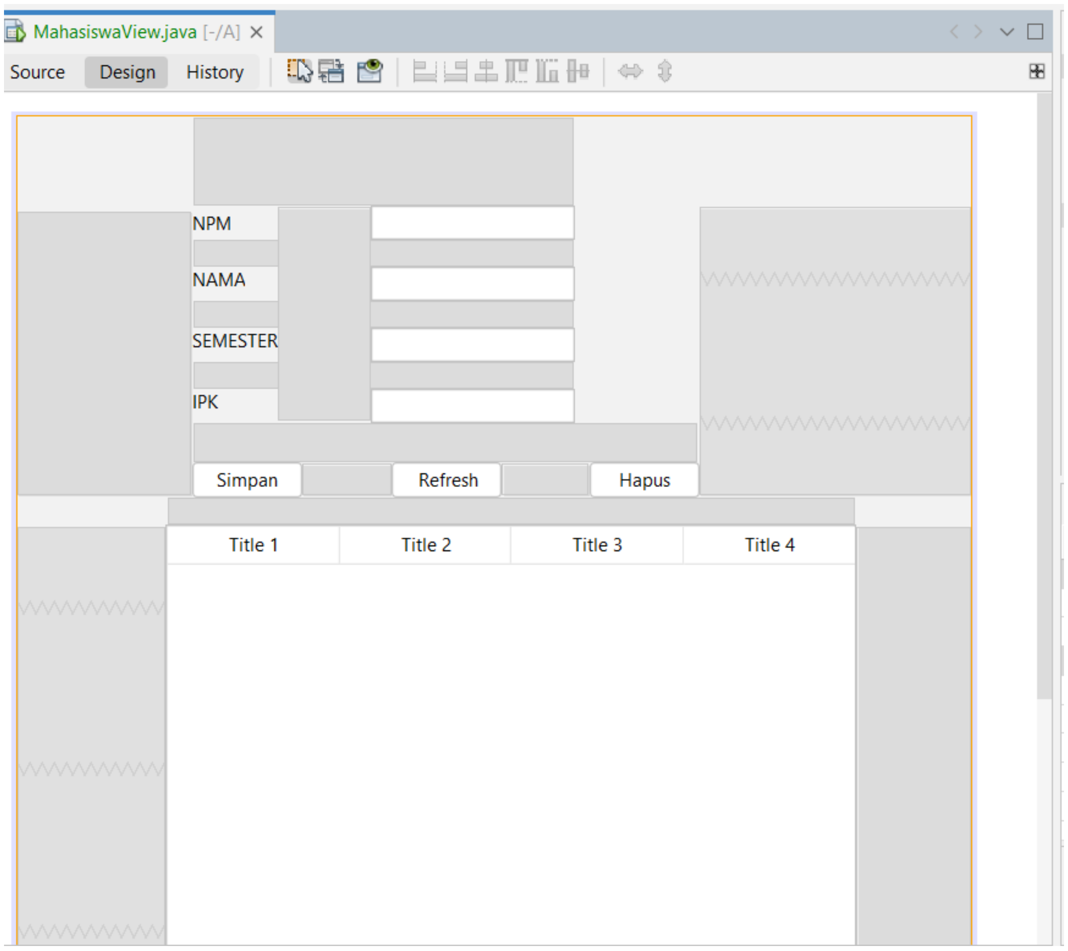
    private List<ModelMahasiswa> mahasiswaList;
    private String[] columnNames = {"ID", "NPM", "Nama", "Semester", "IPK"};

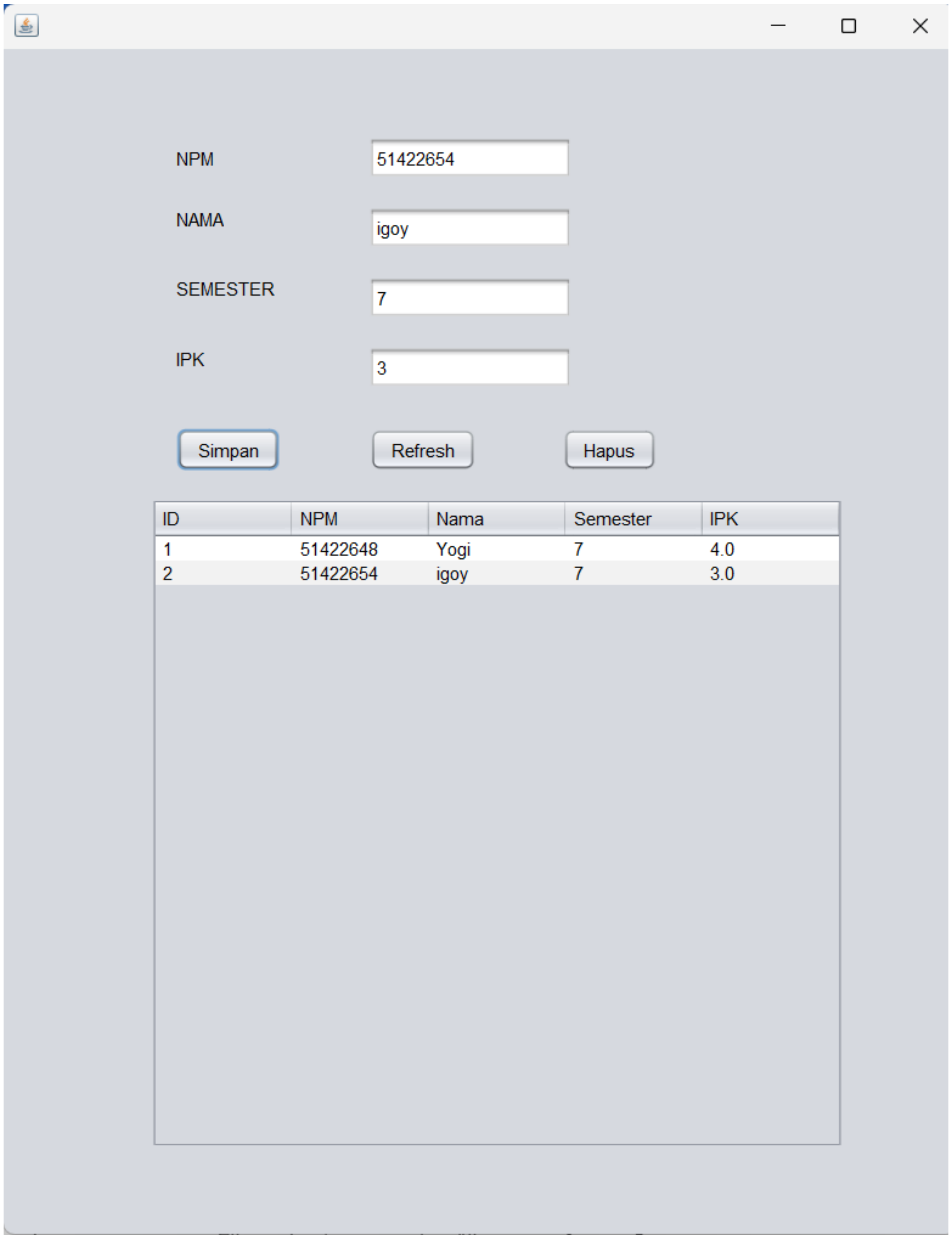
    public ModelTabelMahasiswa(List<ModelMahasiswa> mahasiswaList) {
        this.mahasiswaList = mahasiswaList;
    }
    @Override
    public int getRowCount() {
        return mahasiswaList.size(); // Jumlah baris sesuai dengan jumlah data mahasiswa
    }

    @Override
    public int getColumnCount() {
        return columnNames.length; // Jumlah kolom sesuai dengan jumlah elemen dalam columnNames
    }
```



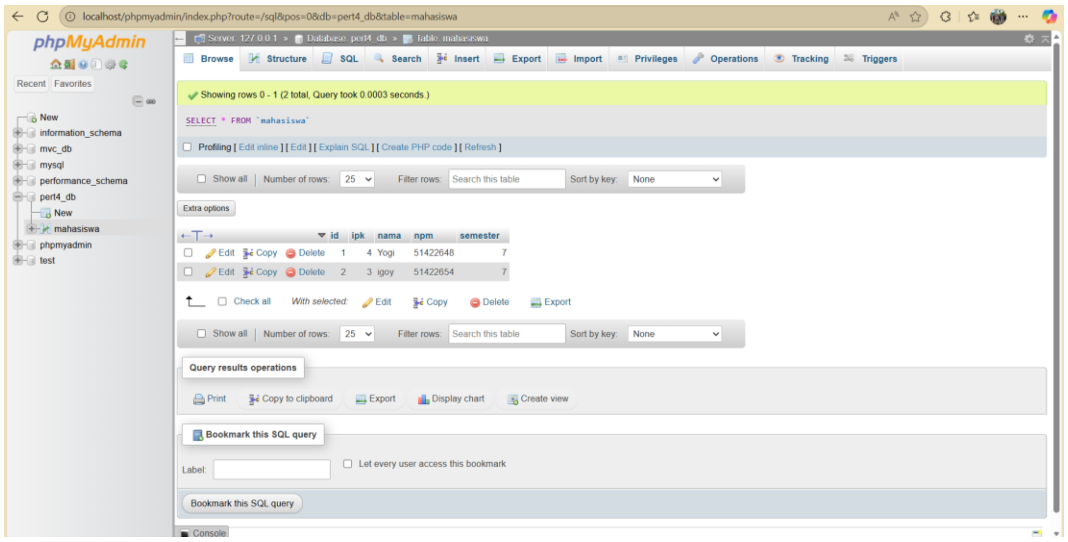
```java

    @Override
    public Object getValueAt(int rowIndex, int columnIndex) {
        ModelMahasiswa mahasiswa = mahasiswaList.get(rowIndex);
        switch (columnIndex) {
            case 0:
                return mahasiswa.getId();
            case 1:
                return mahasiswa.getNpm();
            case 2:
                return mahasiswa.getNama();
            case 3:
                return mahasiswa.getSemester();
            case 4:
                return mahasiswa.getIpk();
            default:
                return null;
        }
    }

    @Override
    public String getColumnName(int column) {
        return columnNames[column]; // Mengatur nama kolom
    }

    @Override
    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return false; // Semua sel tidak dapat diedit
    }


    // Method untuk menambahkan atau memodifikasi data, jika dibutuhkan
    public void setMahasiswaList(List<ModelMahasiswa> mahasiswaList) {
        this.mahasiswaList = mahasiswaList;
        fireTableDataChanged(); // Memberitahu JTable bahwa data telah berubah
    }



}
```


MahasiswaView.java [-/A]
Source
Design
History
NPM
NAMA
SEMESTER
IPK
Simpan
Refresh
Hapus
Title 1
Title 2
Title 3
Title 4



NPM	51422654
NAMA	igoy
SEMESTER	7
IPK	3

ID	NPM	Nama	Semester	IPK
1	51422648	Yogi	7	4.0
2	51422654	igoy	7	3.0



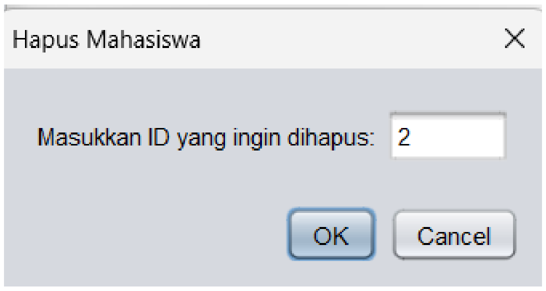
localhost/phpmyadmin/index.php?route=/sql&pos=0&db=pert4_db&table=mahasiswa

Server: 127.0.0.1 » Database: pert4_db » Table: mahasiswa

✓ Showing rows 0 - 1 (2 total, Query took 0.0003 seconds.)

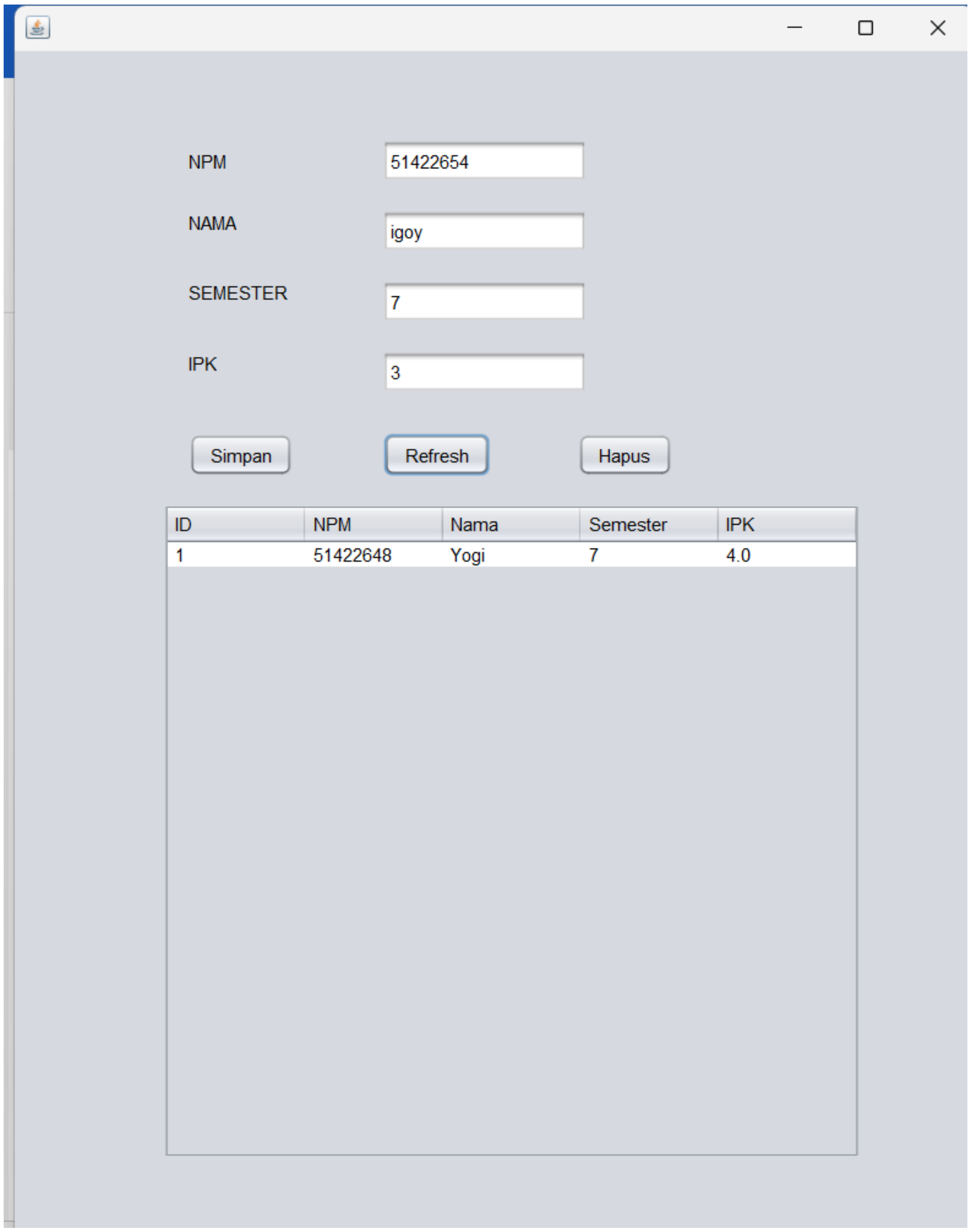
```
SELECT * FROM `mahasiswa`
```

	id	ipk	nama	npm	semester
Edit Copy Delete	1	4	Yogi	51422648	7
Edit Copy Delete	2	3	igoy	51422654	7



Hapus Mahasiswa

Masukkan ID yang ingin dihapus: 2



NPM	51422654
NAMA	igoy
SEMESTER	7
IPK	3

ID	NPM	Nama	Semester	IPK
1	51422648	Yogi	7	4.0