PEMROGARMAN BERBASIS OBJEK

(Soal 5)

Disusun Oleh:

Prames Ray Lapian - 140810210059

PROGRAM STUDI S-1 TEKNIK INFORMATIKA

FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

UNIVERSITAS PADJADJARAN

JATINANGOR

2022

1. Soal 1
    a. Code:

```
#include <iostream>
using namespace std;

class 210059_UTSPBO_Soal1 {
  private:
    float num;
    int pangkat;

  public:
    210059_UTSPBO_Soal1(){
      num = 0;
    }

    void setNum(float number){
      num = number
    }

    void setPangkat(int pkt){
      pangkat = pkt
    }

    float getNum(){
      return(num)
    }
    int getPangkat(){
      return(pangkat)
    }

    void inputData(){
      cout << "Input Nomor\t:" << endl;
      cin << number;
      setNum(number);
      cout << "Input Pangkat\t:" << endl;
      cin << pkt;
      setPangkat(pkt);
    }

    float proses(float& hasil){
      hasil = getNum();
      for(int i = 1; i < getPangkat(); i++){
        hasil =* getNum();
      }
```

```
      return hasil;
    }

    void print(){
      cout << "[HASIL]" << endl;
      cout << getnNum() << " ^ " << getPangkat() << " : " << hasil << endl
<< endl;
    }
}

main() {
  float number, pkt;
  210059_UTSPBO_Soal1();
  inputData();
  proses();
  print();
}
```

b. Screenshot:

2. Soal 2
    a. Code:

    b. Screenshot:

3. Soal 3
    a. Code:

```
import java.util.Scanner;

class Matriks{
  private int baris, kolom;
  private int[][] nilai;

  Matriks(){
    this.baris = 0;
    this.kolom = 0;
    this.nilai = new int[baris][kolom];
  }

  public void inputSize() {
    Scanner sc = new Scanner(System.in);
    System.out.print("Baris\t\t\t: ");
    this.baris = sc.nextInt();
```

```
    System.out.print("Kolom\t\t\t: ");
    this.kolom = sc.nextInt();
    this.nilai = new int [this.baris][this.kolom];
  }

  public void inputMatriks(){
    Scanner sc = new Scanner(System.in);
    for (int i = 0; i < this.baris; i++){
      for (int j = 0; j < this.kolom; j++){
        System.out.print("Masukkan nilai Matriks ke ("+(i+1)+","+(j+1)+")
: ");
        this.nilai[i][j]=sc.nextInt();
      }
    }
  }

  public void compareMatriks(Matriks A, Matriks B){
    for (int i = 0; i < this.baris; i++){
      for (int j = 0; j < this.kolom; j++){
        if (A.nilai[i][j] >= B.nilai[i][j]){
          this.nilai[i][j] = 1;
        }
        else{
          this.nilai[i][j] = 0;
        }
      }
    }
  }

  public void print(){
    System.out.println("[HASIL]");
    for (int i = 0; i < this.baris; i++){
      for (int j = 0; j < this.kolom; j++){
        System.out.print(this.nilai[i][j] + " : ");
        System.out.println();
      }
    }
  }

}

public class UTSPBO_Soal3 {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
```

```
    Matriks A = new Matriks();
    A.inputSize();
    A.inputMatriks();

    Matriks B = new Matriks();
    B.inputSize();
    B.inputMatriks();

    Matriks Hasil = new Matriks();
    Hasil.compareMatriks(A, B);
    Hasil.print();
  }
}
```

b. Screenshot:

4. Soal 4
   a. Code:

```
import java.util.Scanner;
class Waktu{
    private int jam,menit,detik;

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

    }
    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 sc = new Scanner(System.in);
        System.out.print("Masukkan jam : ");
        this.jam = sc.nextInt();
        System.out.print("Masukkan menit : ");
        this.menit = sc.nextInt();
        System.out.print("Masukkan detik : ");
        this.detik = sc.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";
        }

        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;
        }
        int detikHasil = detikAkhir - detikAwal;



        temp.secondToClock(detikHasil);
        return temp;
    }

}

class Kendaraan{
    private String noken;
    private int jenis;
    private Waktu datang = new Waktu();
    private Waktu pulang = new Waktu();

    public Kendaraan(){
      this.noken = " ";
      this.jenis= 0;
    }

    //Input
    public void setNoken(String noken){
      this.noken = noken;
    }
    public void setJenis(int 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 sc = new Scanner(System.in);

      System.out.println("\n[INPUT KENDARAAN]");
      System.out.print("No. Kendaraan : ");
      this.noken = sc.nextLine();

      System.out.println("Jenis Kendaraan : ");
      System.out.println("1. Mobil ");
      System.out.println("2. Motor ");
      this.jenis = sc.nextInt();

      System.out.println("\nJam Masuk: ");
      datang.inputJam();

      System.out.println("\nJam Keluar: ");
      pulang.inputJam();
  }

  public int tarifParkir(){
    int tarif = 0;
    switch(this.jenis){
      case 1:
          tarif = 3000;
          break;
        case 2:
            tarif = 2000;
            break;
    }
    return tarif;
  }

  public Waktu durasiParkir(){
    return this.datang.cariDurasi(this.pulang);
}
```

```
public int biaya(){
    Waktu minParkir = new Waktu(0,10,0);
    Waktu hasil = new Waktu();
    int biaya = 0;
    if(durasiParkir().getMenit() > 10){
        hasil = minParkir.cariDurasi(durasiParkir());
        switch(this.jenis){
          case 1:
              biaya = (3000*hasil.getJam());
              break;
            case 2:
                biaya = (2000*hasil.getJam());
                break;
        }
    } else{}
    return biaya;
  }

  //Output
  public String getNoken(){
      return this.noken;
  }

  public int getJenis(){
      return this.jenis;
  }

  public Waktu getWaktuDatang(){
      return this.datang;
  }

  public Waktu getWaktuPulang(){
      return this.pulang;
  }


  //Proses
  public Waktu getDurasi(){
      return this.datang.cariDurasi(this.pulang);
  }

  public Waktu getJamKeberapa(){
      Waktu hasil = new Waktu(0,0,0);

      if(getDurasi().getJam() >= 1){
```

```
            hasil=hasil.cariDurasi(getDurasi());
        }

        return hasil;

    }
    public void printKendaraan(){
        System.out.println("noken : " + this.noken);
        System.out.println("jenis : " + this.jenis);

        System.out.println("Waktu Datang\t: " + this.datang.getWaktu());
        System.out.println("Waktu pulang\t: " + this.pulang.getWaktu());
        System.out.println("Lama Parkir\t: " + getDurasi().getWaktu());
        System.out.println("Lama Jam\t\t: " + getJamKeberapa() + " jam ");
        System.out.println("Biaya\t\t: " + biaya());

    }

}

public class UTSPBO_Soal4_210059 {
  public static void main(String[] args) {

    int panjang = inputInt("Banyak Kendaraan\t: ");
    clearScreen();

    Kendaraan arrKendaraan[] = new Kendaraan[panjang];

    inputArrayKendaraan(arrKendaraan, panjang);
    clearScreen();

    tampilkanData(arrKendaraan, panjang);

 }


 static int inputInt(String pesan){
     System.out.print(pesan);
     Scanner sc = new Scanner(System.in);
     return sc.nextInt();
 }

 static void clearScreen(){
     System.out.print("\033[H\033[2J");
     System.out.flush();
```

```
 }

 static void tampilkanData(Kendaraan[] data,int ukuran){
     int no = 1;
     System.out.println("[Rekapitulasi Biaya Parkir PT Parkir Jaya]");
     if(data[0].getNoken()=="s"){
         System.out.println("Data kosong ! ");
     }


     else{
         System.out.println("_____________________________________________
_____");
             System.out.println("No\t No Kendaraan\t\t Jenis\t\t Masuk\t\t
Keluar\t\t Durasi\t\t Lama Jam\t\t Biaya\t\t");
             System.out.println("_____________________________________________
________");
             for(int i=0; i<ukuran; i++){
                 if(data[i].getNoken() == null){
                     break;
                 }
                 else{
                     System.out.println(
                     //print identitas
                     no + "\t" +
                     data[i].getNoken() + "\t\t" +
                     data[i].getJenis() + "\t\t" +

                     //print waktu
                     data[i].getWaktuDatang().getWaktu() + "\t" +
                     data[i].getWaktuPulang().getWaktu() + "\t" +

                     //print durasi
                     data[i].durasiParkir().getWaktu() + "\t " +
                     data[i].durasiParkir().getJam() + "\t" +
                     //print tarif
                     data[i].biaya() );
                 }
                 no++;
             }
             System.out.println("_____________________________________________
________");
     }
 }
```

```
 static void inputArrayKendaraan(Kendaraan[] data,int ukuran){
     for(int i=0;i<ukuran;i++){
     System.out.println("Kendaraan ke " + (i+1));
     data[i] = new Kendaraan();
     data[i].inputKendaraan();
     clearScreen();
     }
 }
}
```

b. Screenshot: