Mata Kuliah   : PBO – TI – SI

Pertemuan   : 4

Nama   : Margareta Valencia

NIM   : A11.2022.14704

PRAKTIKUM 4

Struktur Kendali (IF)

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 4>java TestNilai
NIM             : A11202214667
Nama            : Nila
Nilai Tugas     : 99.0  30% : 34.3
Nilai UTS       : 87.0  30% : 30.449999
Nilai UAS       : 98.0  30% : 34.3
Nilai Ahir      : 99.05
Nilai Huruf     : A
Predikat        : Apik
NIM             : A11202214667
Nama            : Valen
Nilai Tugas     : 98.0  30% : 34.649998
Nilai UTS       : 87.0  30% : 30.449999
Nilai UAS       : 99.0  30% : 34.649998
Nilai Ahir      : 99.75
Nilai Huruf     : A
Predikat        : Apik
Nim             : A11202214704
Nama            : Margareta Valencia
Nilai Tugas     : 90
Nilai UTS       : 95
Nilai UAS       : 90
NIM             : A11202214704
Nama            : Margareta Valencia
Nilai Tugas     : 90.0  30% : 31.5
Nilai UTS       : 95.0  30% : 33.25
Nilai UAS       : 90.0  30% : 31.5
Nilai Ahir      : 96.25
Nilai Huruf     : A
Predikat        : Apik
Input data lagi [Y/T]?
T
```

Code Nilai.java :

```java
import java.util.Scanner;

public class Nilai {

        String nim, nama, nHuruf, predikat ;

        float nilaiUts, nilaiTugas, nilaiUas,pNilaiUts, pNilaiTugas, pNilaiUas,
        nilaiAkhir;
```

```java
Scanner myObj = new Scanner(System.in);
void isiData(String nim, String nama, float nilaiUts, float nilaTugas, float nilaiUas){
        this.nim=nim;
        this.nama=nama;
        this.nilaiTugas=nilaiTugas;
        this.nilaiUts=nilaiUts;
        this.nilaiUas=nilaiUas; }
void setNim(String nim){ this.nim=nim; }
String getNim(){ return nim; }
void inputData(){
        System.out.print ("Nim : ");nim=myObj.nextLine();
        System.out.print ("Nama : ");nama=myObj.nextLine();
        System.out.print ("Nilai Tugas : "); nilaiTugas=myObj.nextFloat();
        System.out.print ("Nilai UTS : ");nilaiUts=myObj.nextFloat();
        System.out.print ("Nilai UAS : ");nilaiUas=myObj.nextFloat(); }
void hitungNilai(){
        pNilaiUts=.35f*nilaiUts;
        pNilaiTugas=.35f*nilaiUas;
        pNilaiUas=.35f*nilaiUas;
        nilaiAkhir=pNilaiTugas+pNilaiUts+pNilaiUas; }
void cetakNilai(){
    System.out.println("NIM : "+nim);
    System.out.println("Nama : "+nama);
    System.out.println("Nilai Tugas : "+nilaiTugas+"30% : "+pNilaiTugas);
    System.out.println("Nilai UTS : "+nilaiUts+"   30% : "+pNilaiUts);
    System.out.println("Nilai UAS : "+nilaiUas+"   30% : "+pNilaiUas);
    System.out.println("Nilai Ahir : "+nilaiAkhir);
```

```java
        System.out.println("Nilai Huruf : "+getNilHuruf(nilaiAkhir));
        System.out.println("Predikat     : "+getPredikat(nHuruf)); }
String getNilHuruf(float nilai){
        if (nilai >= 85) {
                nHuruf = "A";
        } else if (nilai >= 80 && nilai < 85) {
                nHuruf = "AB";
        } else if (nilai >= 70 && nilai < 80) {
                nHuruf = "B";
        } else if (nilai >= 65 && nilai < 70) {
                nHuruf = "BC";
        } else if (nilai >= 60 && nilai < 65) {
                nHuruf = "C";
        } else if (nilai >= 40 && nilai < 60) {
                nHuruf = "D";
        } else {
                nHuruf = "E";
        } return nHuruf; }
String getPredikat(String huruf) {
        switch (huruf) {
                case "A":
                        predikat = "Apik"; break;
                case "AB":
                        predikat = "Apik Baik"; break;
                case "B":
                        predikat = "Baik"; break;
                case "BC":
                        predikat = "Baik Cukup"; break;
```

```java
                case "C":
                        predikat = "Cukup"; break;
                case "D":
                        predikat = "Dablek"; break;
                default:
                        predikat = "Elek";
        } return predikat;
    }
}
```

Code TestNilai.java :

```java
import java.util.Scanner;
import java.io.*;
public class TestNilai{
    public static void main (String[] a){
        String jawab="";
        Scanner input = new Scanner(System.in);
        Nilai nilaiku=new Nilai();
        nilaiku.nim="A11202214667";
        nilaiku.nama="Nila";
        nilaiku.nilaiTugas=99;
        nilaiku.nilaiUts=87;
        nilaiku.nilaiUas=98;
        nilaiku.hitungNilai();
        nilaiku.cetakNilai();
        Nilai nilaimu=new Nilai();
        nilaimu.nim="A11202214704";
        nilaiku.nama="Valen";
        nilaiku.nilaiTugas=98;
```

```java
                nilaiku.nilaiUts=87;

                nilaiku.nilaiUas=99;

                nilaiku.hitungNilai();

                nilaiku.cetakNilai();

                do{

                        Nilai nilaiDia = new Nilai();

                         nilaiDia.inputData();

                        nilaiDia.hitungNilai();

                        nilaiDia.cetakNilai();

                        System.out.println("Input data lagi [Y/T]? ");

                        jawab=input.nextLine();

                } while(jawab.equalsIgnoreCase("Y"));

        }

}
```

Latihan 1

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 4>java TestPenjualan
Masukkan data penjualan
Kode Barang :
A005
Nama Barang :
AC
Harga Satuan Barang :
1000000
Jumlah Barang :
5
========== Data Penjualan ==========
Kode Barang : A005
Nama Barang : AC
Harga Satuan Barang : 1000000.0
Jumlah Barang : 5
Total Harga : 5000000.0
Bonus : Payung
Input data lagi [Y/T]?
Y
Masukkan data penjualan
Kode Barang :
K006
Nama Barang :
Kulkas
Harga Satuan Barang :
2500000
Jumlah Barang :
3
========== Data Penjualan ==========
Kode Barang : K006
Nama Barang : Kulkas
Harga Satuan Barang : 2500000.0
Jumlah Barang : 3
Total Harga : 7500000.0
Bonus : Ballpoint
Input data lagi [Y/T]?
T
```

Code Penjualan.java

```java
import java.util.Scanner;
public class Penjualan {
    String kode, nama;
    float harga;
    double total;
    int jumlah;
    Scanner key = new Scanner(System.in);
    public Penjualan() {
    };
    public void setData(String kode, String nama, float harga, int jumlah) {
        this.kode = kode;
        this.nama = nama;
        this.harga = harga;
        this.jumlah = jumlah;
    }
    void inputData(){
        System.out.println("Masukkan data penjualan");
        System.out.println("Kode Barang : ");
        kode = key.nextLine();
        System.out.println("Nama Barang : ");
        nama = key.nextLine();
        System.out.println("Harga Satuan Barang : ");
        harga = key.nextFloat();
        System.out.println("Jumlah Barang : ");
        jumlah = key.nextInt();
    }
    void hitungTotal() {
```

```java
            total = harga * jumlah;
            System.out.println("Total Harga : " + total);
        }
        String getBonus() {
            String bonus = "";
            if (total >= 500000 && jumlah > 5) {
                bonus = "Setrika";
            } else if (total >= 100000 && jumlah > 3) {
                bonus = "Payung";
            } else if (total >= 50000 && jumlah > 2) {
                bonus = "Ballpoint";
            } else
                bonus = "tidak mendapatkan bonus";
            return bonus;
        }
        void cetakNota() {
            System.out.println("========== Data Penjualan ==========");
            System.out.println("Kode Barang : " + kode);
            System.out.println("Nama Barang : " + nama);
            System.out.println("Harga Satuan Barang : " + harga);
            System.out.println("Jumlah Barang : " + jumlah);
            hitungTotal();
            System.out.println("Bonus : " + getBonus());
        }
}
```

Code TestPenjualan.java

```java
import java.util.Scanner;
public class TestPenjualan {
```

```java
public static void main(String[] args) {

    Scanner input = new Scanner(System.in);

    String inputLagi;

    do {

        Penjualan penjualan = new Penjualan();

        penjualan.inputData();

        penjualan.cetakNota();

        System.out.println("Input data lagi [Y/T]? ");

        inputLagi = input.nextLine();

    } while (inputLagi.equalsIgnoreCase("Y"));

    input.close();

  }

}
```

Latihan 2

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 4>java RumusABC
Masukkan koefisien a:
2
Masukkan koefisien b:
5
Masukkan koefisien c:
8
Akar-akar persamaan kuadrat:
X1 = -1.25 + 1.5612494995995996i
X2 = -1.25 - 1.5612494995995996i
Input data lagi [Y/T]?
y
Masukkan koefisien a:
10
Masukkan koefisien b:
5
Masukkan koefisien c:
15
Akar-akar persamaan kuadrat:
X1 = -0.25 + 1.1989578808281798i
X2 = -0.25 - 1.1989578808281798i
Input data lagi [Y/T]?
t
```

Code RumusABC.java

```java
import java.util.Scanner;
public class RumusABC {
public static void main(String[] args) {
Scanner scanner = new Scanner(System.in);
char ulangi;
do {
        System.out.println("Masukkan koefisien a:");
        double a = scanner.nextDouble();
        System.out.println("Masukkan koefisien b:");
        double b = scanner.nextDouble();
        System.out.println("Masukkan koefisien c:");
        double c = scanner.nextDouble();
        double D = b * b - 4 * a * c;
        if (D > 0) {
                double x1 = (-b + Math.sqrt(D)) / (2 * a);
                double x2 = (-b - Math.sqrt(D)) / (2 * a);
                System.out.println("Akar-akar persamaan kuadrat:");
                System.out.println("X1 = " + x1);
                System.out.println("X2 = " + x2);
        } else if (D == 0) {
                double x = -b / (2 * a);
                System.out.println("Akar-akar persamaan kuadrat:");
                System.out.println("X1 = X2 = " + x);
        } else {
                double realPart = -b / (2 * a);
                double imaginaryPart = Math.sqrt(-D) / (2 * a);
                System.out.println("Akar-akar persamaan kuadrat:");
```
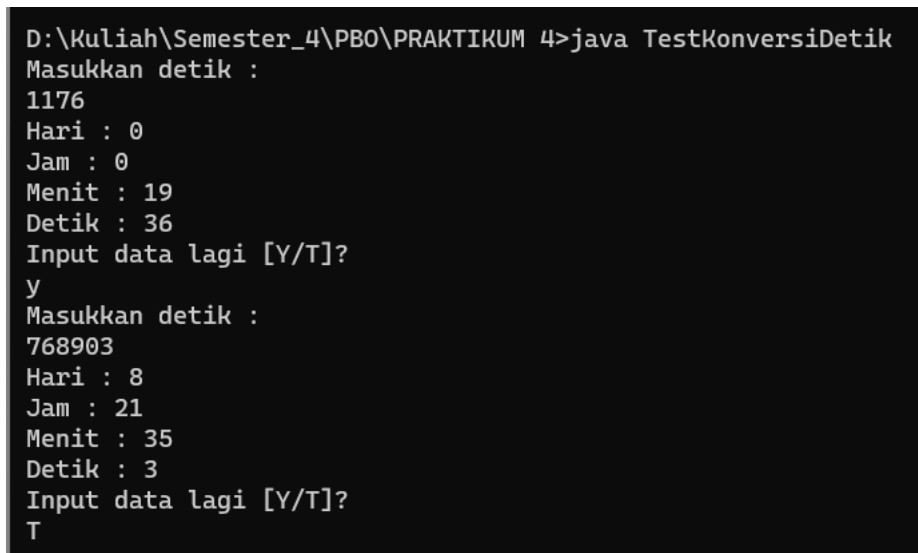
```java
            System.out.println("X1 = " + realPart + " + " + imaginaryPart + "i");

            System.out.println("X2 = " + realPart + " - " + imaginaryPart + "i");

        }

        System.out.println("Input data lagi [Y/T]?");

        ulangi = scanner.next().charAt(0);

        } while (ulangi == 'Y' || ulangi == 'y');

        scanner.close();

        }

}
```

Latihan 3

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 4>java TestKonversiDetik
Masukkan detik :
1176
Hari : 0
Jam : 0
Menit : 19
Detik : 36
Input data lagi [Y/T]?
y
Masukkan detik :
768903
Hari : 8
Jam : 21
Menit : 35
Detik : 3
Input data lagi [Y/T]?
T
```

Code KonversiDetik.java

```java
import java.util.Scanner;

public class KonversiDetik {

    int detik;

    int hasil;

    Scanner key = new Scanner(System.in);
```

```java
    public KonversiDetik(int detik){

        this.detik = detik;

    }

    public KonversiDetik(){}

    void inputDetik(){

        System.out.println("Masukkan detik : "); detik = key.nextInt();

    }

    void hari(){

        hasil = detik/86400;

        System.out.println("Hari : " + hasil);

    }

    void jam(){

        hasil = (detik%86400)/3600;

        System.out.println("Jam : " + hasil);

    }

    void menit(){

        hasil = ((detik%86400)%3600)/60;

        System.out.println("Menit : " + hasil);

    }

    void detik(){

        hasil = ((detik%86400)%3600)%60;

        System.out.println("Detik : " + hasil);

    }

}
```

Code TestKonversiDetik.java

```java
import java.util.Scanner;


public class TestKonversiDetik {
```

```java
public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    String inputLagi;
    do {
        KonversiDetik konversi = new KonversiDetik();
        konversi.inputDetik();
        konversi.hari();
        konversi.jam();
        konversi.menit();
        konversi.detik();
        System.out.println("Input data lagi [Y/T]? ");
        inputLagi = input.nextLine();
    } while (inputLagi.equalsIgnoreCase("Y"));
    input.close();
}
}
```