Mata Kuliah : PBO – TI – S1

Pertemuan : 3

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PRAKTIKUM 3

Latihan 1

```
public class Matematika {
        float hasil, a, b;

        public Matematika(){
                //
        }

        public Matematika(float a, float b){
        this.a = a;
        this.b = b;
    }
        void pertambahan(float a, float b) {
                hasil = a + b;
                System.out.println(" \n Hasil Pertambahan : " + a + " + " + b + " = " + hasil);
        }
        void pengurangan(float a, float b) {
                hasil = a - b;
                System.out.println(" \n Hasil Pengurangan : " + a + " - " + b + " = " + hasil);
        }
        void perkalian(float a, float b) {
                hasil = a * b;
                System.out.println(" \n Hasil Perkalian : " + a + " x " + b + " = " + hasil);
        }
        void pembagian(float a, float b) {
                hasil = a / b;
                System.out.println(" \n Hasil Pembagian : " + a + " : " + b + " = " + hasil);
        }
}
```

```
public class MatematikaDemo {
        public static void main(String[] args) {
        Matematika hitung = new Matematika();
        hitung.pertambahan(20, 20);
        hitung.pengurangan(10, 5);
        hitung.perkalian(10, 20);
        hitung.pembagian(20, 2);
    }
}
```

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>javac MatematikaDemo.java

D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>java MatematikaDemo

 Hasil Pertambahan : 20.0 + 20.0 = 40.0

 Hasil Pengurangan : 10.0 - 5.0 = 5.0

 Hasil Perkalian : 10.0 x 20.0 = 200.0

 Hasil Pembagian : 20.0 : 2.0 = 10.0
```

Code Matematika.java :

```
public class Matematika {
	float hasil, a, b;
	public Matematika(){
		//}
	public Matematika(float a, float b){
		this.a = a;
		 this.b = b;
	  }
	void pertambahan(float a, float b) {
		hasil = a + b;
		System.out.println(" \n Hasil Pertambahan : " + a + " + " + b + " = " + hasil);
	}
	void pengurangan(float a, float b) {
		hasil = a - b;
		System.out.println(" \n Hasil Pengurangan : " + a + " - " + b + " = " + hasil);
	}
	void perkalian(float a, float b) {
		hasil = a * b;
		System.out.println(" \n Hasil Perkalian : " + a + " x " + b + " = " + hasil);
	}
	void pembagian(float a, float b) {
		hasil = a / b;
		System.out.println(" \n Hasil Pembagian : " + a + " : " + b + " = " + hasil);
	}
}
```

Code MahasiswaDemo.java

```
public class MatematikaDemo {
        public static void main(String[] args) {
        Matematika hitung = new Matematika();
        hitung.pertambahan(20, 20);
        hitung.pengurangan(10, 5);
        hitung.perkalian(10, 20);
        hitung.pembagian(20, 2);
    }
}
```

Latihan 2

```
public class KonversiSuhu {

    float hasil;
    int Celcius;

    public KonversiSuhu(int Celcius){
        this.Celcius = Celcius;
    }

    public KonversiSuhu(){}

    void hitungKelvin (int Celcius){
        hasil = Celcius + 273.15f;
        System.out.println("Konversi Celcius ke Kelvin : " + hasil + " K");
    }
    void hitungFarhenheit (int Celcius){
        hasil = Celcius * 1.8f + 32;
        System.out.println("Konversi Celcius ke Farhenheit : " + hasil + " F");
    }
    void hitungRankine (int Celcius){
        hasil = Celcius * 1.8f + 491.67f;
        System.out.println("Konversi Celcius ke Rankine : " + hasil + " Ra");
    }
    void hitungDalisle (int Celcius){
        hasil = (100 - Celcius) * 1.5f;
        System.out.println("Konversi Celcius ke Dalisle : " + hasil + " De");
    }
    void hitungNewton (int Celcius){
        hasil = Celcius * 33/100;
        System.out.println("Konversi Celcius ke Newton : " + hasil + " N");
    }
    void hitungReaumur (int Celcius){
        hasil = Celcius * 0.8f;
        System.out.println("Konversi Celcius ke Reaumur : " + hasil + " R");
    }
    void hitungRomer(int Celcius){
        hasil = Celcius * 21/40 + 7.5f;
        System.out.println("Konversi Celcius ke Romer : " + hasil + " Ro");
    }
}
```

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

        KonversiSuhu Suhu = new KonversiSuhu(36);
        Suhu.hitungKelvin(Suhu.Celcius);
        Suhu.hitungFarhenheit(Suhu.Celcius);
        Suhu.hitungRankine(Suhu.Celcius);
        Suhu.hitungDalisle(Suhu.Celcius);
        Suhu.hitungNewton(Suhu.Celcius);
        Suhu.hitungReaumur(Suhu.Celcius);
        Suhu.hitungRomer(Suhu.Celcius);
    }
}
```

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>javac TestKonversiSuhu.java

D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>java TestKonversiSuhu
Konversi Celcius ke Kelvin : 309.15 K
Konversi Celcius ke Farhenheit : 96.799995 F
Konversi Celcius ke Rankine : 556.47003 Ra
Konversi Celcius ke Dalisle : 96.0 De
Konversi Celcius ke Newton : 11.0 N
Konversi Celcius ke Reaumur : 28.800001 R
Konversi Celcius ke Romer : 25.5 Ro
```

Code KonversiSuhu.java :

```
public class KonversiSuhu {

    float hasil;
    int Celcius;

    public KonversiSuhu(int Celcius){
        this.Celcius = Celcius;
    }

    public KonversiSuhu(){}

    void hitungKelvin (int Celcius){
        hasil = Celcius + 273.15f;
        System.out.println("Konversi Celcius ke Kelvin : " + hasil + " K");
    }
    void hitungFarhenheit (int Celcius){
        hasil = Celcius * 1.8f + 32;
        System.out.println("Konversi Celcius ke Farhenheit : " + hasil + " F");
    }
```

```
    void hitungRankine (int Celcius){
        hasil = Celcius * 1.8f + 491.67f;
        System.out.println("Konversi Celcius ke Rankine : " + hasil + " Ra");
    }
    void hitungDalisle (int Celcius){
        hasil = (100 - Celcius) * 1.5f;
        System.out.println("Konversi Celcius ke Dalisle : " + hasil + " De");
    }
    void hitungNewton (int Celcius){
        hasil = Celcius * 33/100;
        System.out.println("Konversi Celcius ke Newton : " + hasil + " N");
    }
    void hitungReaumur (int Celcius){
        hasil = Celcius * 0.8f;
        System.out.println("Konversi Celcius ke Reaumur : " + hasil + " R");
    }
    void hitungRomer(int Celcius){
        hasil = Celcius * 21/40 + 7.5f;
        System.out.println("Konversi Celcius ke Romer : " + hasil + " Ro");
    }
}
```

Code TestKonversiSuhu.java :

```
public class TestKonversiSuhu {
    public static void main(String[] args) {
        KonversiSuhu Suhu = new KonversiSuhu(36);
        Suhu.hitungKelvin(Suhu.Celcius);
        Suhu.hitungFarhenheit(Suhu.Celcius);
        Suhu.hitungRankine(Suhu.Celcius);
```

```
        Suhu.hitungDalisle(Suhu.Celcius);
        Suhu.hitungNewton(Suhu.Celcius);
        Suhu.hitungReaumur(Suhu.Celcius);
        Suhu.hitungRomer(Suhu.Celcius);
    }
}
```

Latihan 3

```
public class TestStatic {
    int a = 10;
    static int b = 20;
    protected int c = 30;
    public int d = 40;
    private int e = 50;
    void satu(){
        dua();
        System.out.println("satu............");
        System.out.println("satu............a"+a);
        System.out.println("satu............b"+b);
        System.out.println("satu............c"+c);
        System.out.println("satu............d"+d);
        System.out.println("satu............e"+e);
    }
    static void dua(){
        // satu(); --> error ststic call non static
        System.out.println("dua............"+b);
        // System.out.println("dua............"+a); --> error ststic call var non static
    }
    public static void main(String[] a){
        // satu(); --> error ststic call non static
        dua();
    }
}
```

```
public class TestStatic1 {
    public static void main(String[] args) {
        TestStatic test = new TestStatic();

        test.satu(); // Memanggil method satu() dari objek test
        TestStatic.dua(); // Memanggil method dua() secara langsung dari kelas TestStatic

        // Mencetak kembali attribute a-e dari objek test
        System.out.println("Attribute a: " + test.a);
        System.out.println("Attribute b: " + TestStatic.b);
        System.out.println("Attribute c: " + test.c);
        System.out.println("Attribute d: " + test.d);
        // System.out.println("Attribute e: " + test.e); // e adalah private dan tidak bisa diakses dari luar kelas TestStatic
    }
}
```

```
D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>javac TestStatic1.java

D:\Kuliah\Semester_4\PBO\PRAKTIKUM 3>java TestStatic1
dua............20
satu............
satu............a10
satu............b20
satu............c30
satu............d40
satu............e50
dua............20
Attribute a: 10
Attribute b: 20
Attribute c: 30
Attribute d: 40
```

Code TestStatic.java :

```
public class TestStatic {
    int a = 10;
    static int b = 20;
    protected int c = 30;
    public int d = 40;
    private int e = 50;
    void satu(){
        dua();
        System.out.println("satu.....");
        System.out.println("satu.....a"+a);
        System.out.println("satu.....b"+b);
        System.out.println("satu.....c"+c);
        System.out.println("satu.....d"+d);
        System.out.println("satu.....e"+e);
    }
    static void dua(){
        // satu(); --> error ststic call non static
        System.out.println("dua....."+b);
        // System.out.println("dua....."+a); --> error ststic call var non static
    }
    public static void main(String[] a){
        // satu(); --> error ststic call non static
        dua();
    }
}
```

Code TestStatic1.java :

```
public class TestStatic1 {
    public static void main(String[] args) {
        TestStatic test = new TestStatic();


        test.satu(); // Memanggil method satu() dari objek test
        TestStatic.dua(); // Memanggil method dua() secara langsung dari kelas TestStatic


        // Mencetak kembali attribute a-e dari objek test
        System.out.println("Attribute a: " + test.a);
        System.out.println("Attribute b: " + TestStatic.b);
        System.out.println("Attribute c: " + test.c);
        System.out.println("Attribute d: " + test.d);
        // System.out.println("Attribute e: " + test.e); // e adalah private dan tidak bisa diakses dari luar kelas TestStatic
    }
}
```