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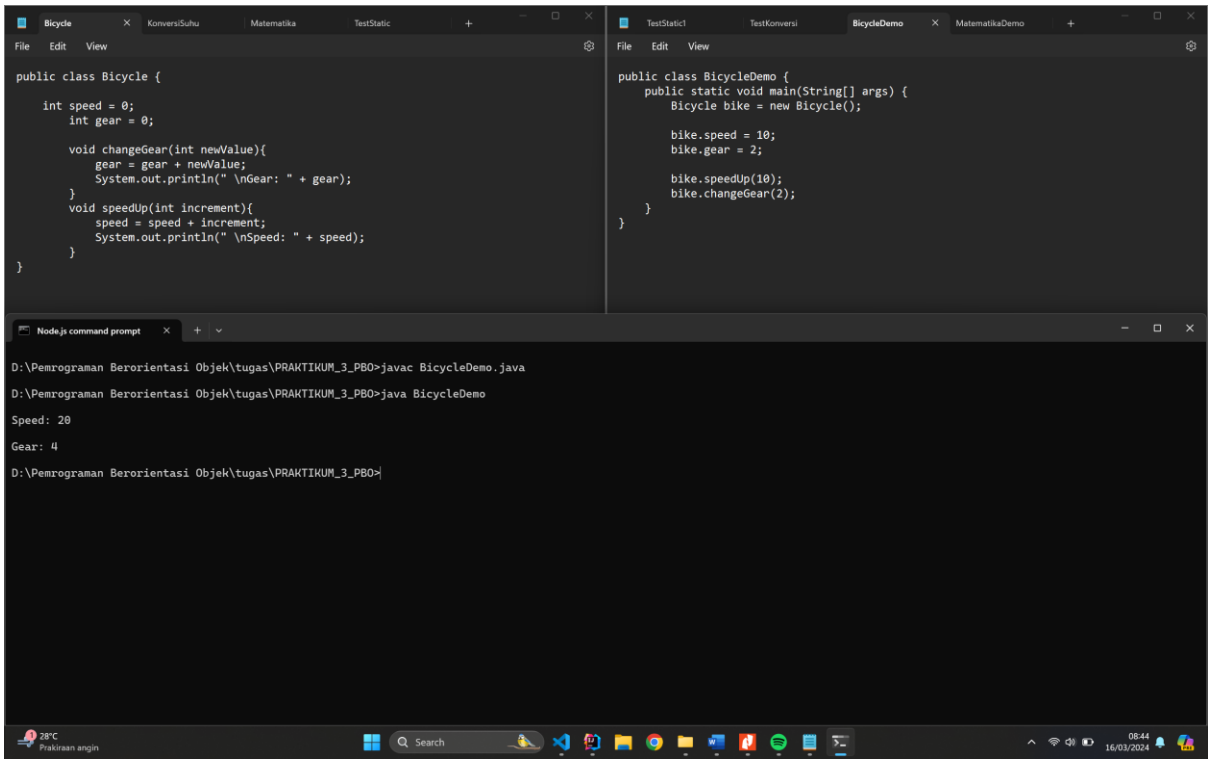
PRAKTIKUM 3

Membuat class Bicycle dan BicycleDemo



Code Bicycle.java	Code BicycleDemo.java

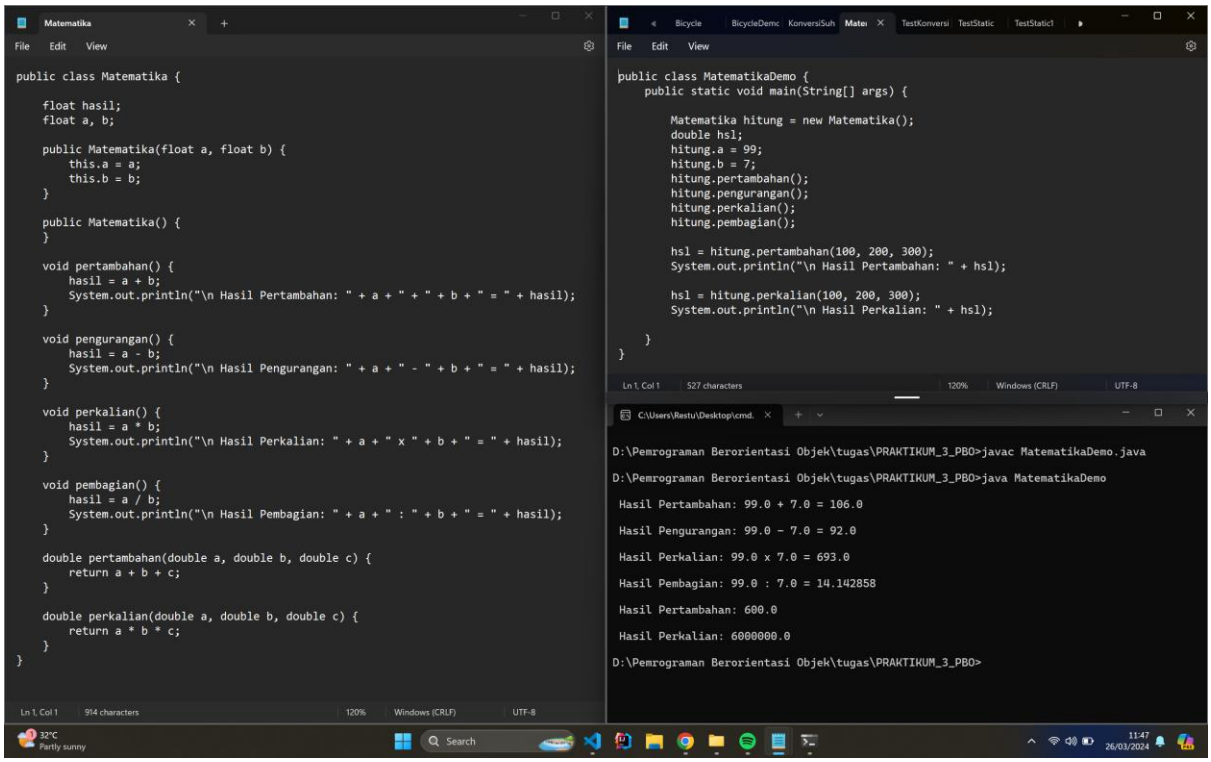
`public class Bicycle {`
 	
`int speed = 0;`
`int gear = 0;`
 	
`void changeGear(int newValue){`
`gear = gear + newValue;`
`System.out.println("\nGear: " + gear);`
`}`
`void speedUp(int increment){`
`speed = speed + increment;`
`System.out.println("\nSpeed: " + speed);`
	`public class BicycleDemo {`
	`public static void main(String[] args) {`
	`Bicycle bike = new Bicycle();`
	
	`bike.speed = 10;`
	`bike.gear = 2;`
	
	`bike.speedUp(10);`
	`bike.changeGear(2);`
	`}`
	`}`

```
        }
}
```

Output

```
Command Prompt

D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>javac BicycleDemo.java

D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>java BicycleDemo

Speed: 20

Gear: 4

D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>
```

Latihan 1 (Program Operasi Matematika)



Code Matematika.java

```java
public class Matematika {

    float hasil;
    float a, b;
```

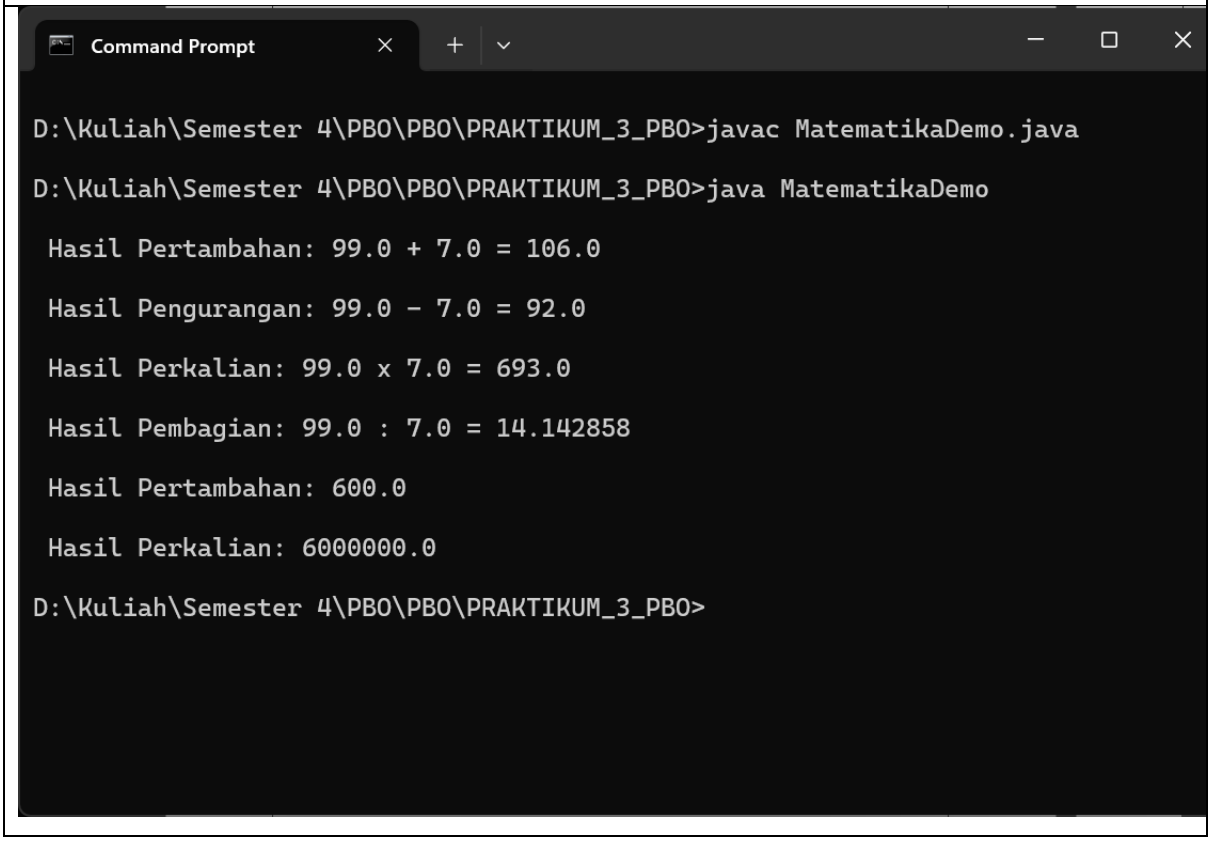
```
    public Matematika(float a, float b) {
        this.a = a;
        this.b = b;
    }

    public Matematika() {
    }

    void pertambahan() {
        hasil = a + b;
        System.out.println("\n Hasil Pertambahan: " + a + " + " + b + " = "
+ hasil);
    }

    void pengurangan() {
        hasil = a - b;
        System.out.println("\n Hasil Pengurangan: " + a + " - " + b + " = "
+ hasil);
    }

    void perkalian() {
        hasil = a * b;
        System.out.println("\n Hasil Perkalian: " + a + " x " + b + " = " +
hasil);
    }

    void pembagian() {
        hasil = a / b;
        System.out.println("\n Hasil Pembagian: " + a + " : " + b + " = " +
hasil);
    }

    double pertambahan(double a, double b, double c) {
        return a + b + c;
    }

    double perkalian(double a, double b, double c) {
        return a * b * c;
    }
}
```

Code MatematikaDemo.java

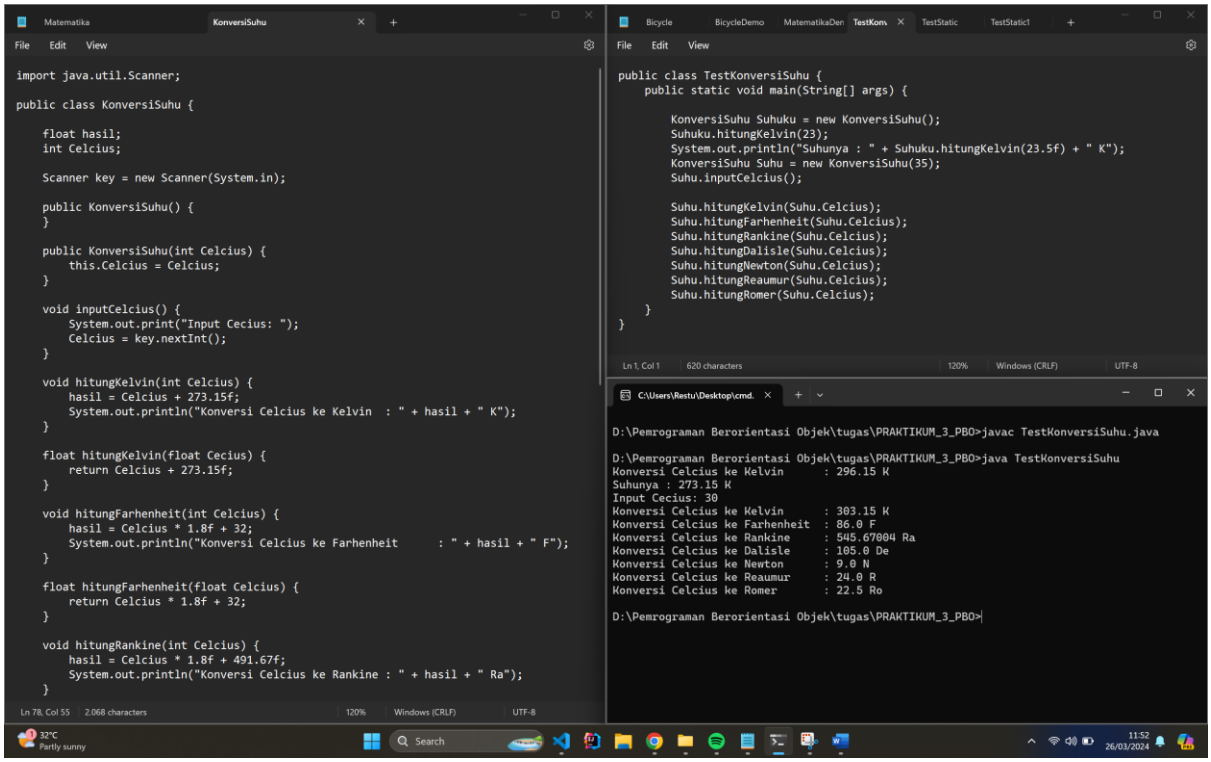
```
public class MatematikaDemo {
    public static void main(String[] args) {
```

```
        Matematika hitung = new Matematika();
        double hsl;
        hitung.a = 99;
        hitung.b = 7;
        hitung.pertambahan();
        hitung.pengurangan();
        hitung.perkalian();
        hitung.pembagian();

        hsl = hitung.pertambahan(100, 200, 300);
        System.out.println("\n Hasil Pertambahan: " + hsl);

        hsl = hitung.perkalian(100, 200, 300);
        System.out.println("\n Hasil Perkalian: " + hsl);

    }
}
```

Output



Latihan 2 (Program konversi suhu dari Celcius)



Code KonversiSuhu.java

```
import java.util.Scanner;

public class KonversiSuhu {

    float hasil;
    int Celcius;

    Scanner key = new Scanner(System.in);

    public KonversiSuhu() {
    }

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

    void inputCelcius() {
        System.out.print("Input Cecius: ");
        Celcius = key.nextInt();
    }

    void hitungKelvin(int Celcius) {
        hasil = Celcius + 273.15f;
        System.out.println("Konversi Celcius ke Kelvin  : " + hasil + " K");
```

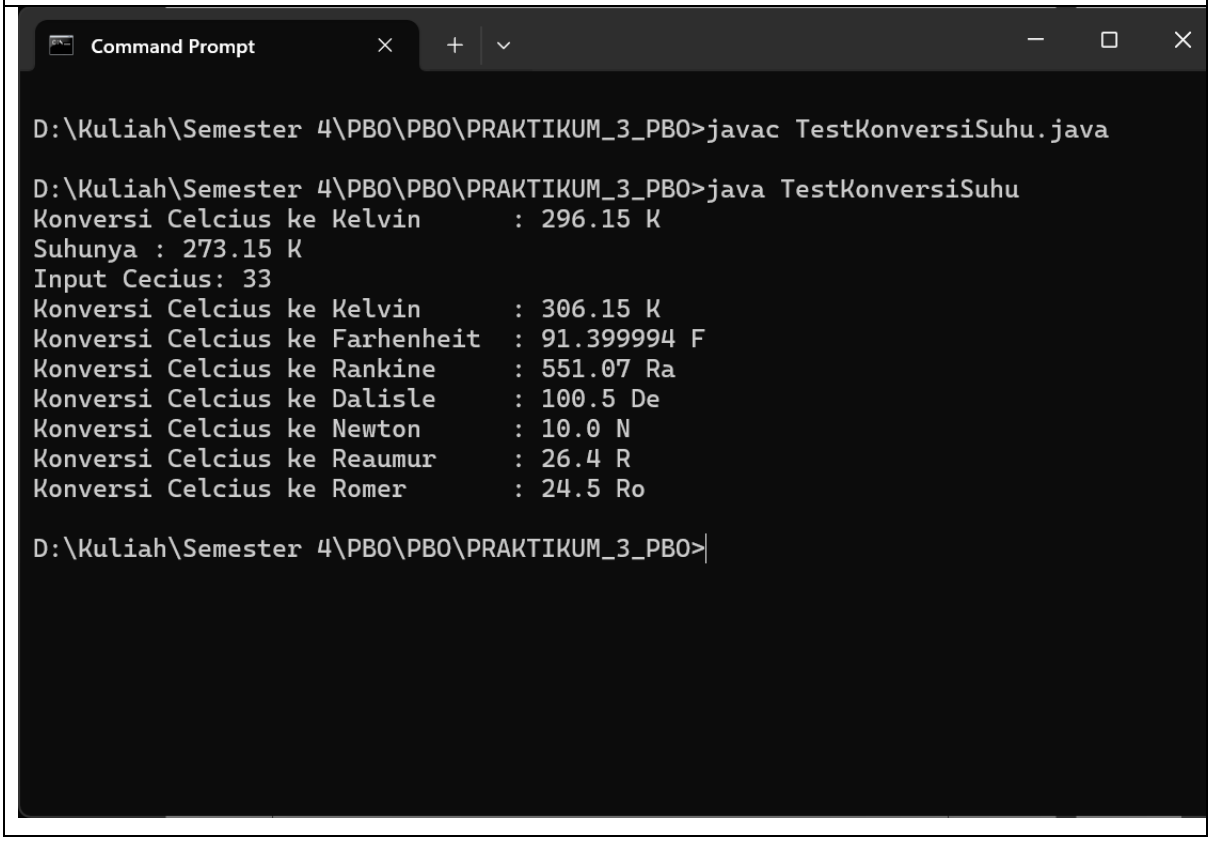
```
    }

    float hitungKelvin(float Cecius) {
        return Celcius + 273.15f;
    }

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

    float hitungFarhenheit(float Celcius) {
        return Celcius * 1.8f + 32;
    }

    void hitungRankine(int Celcius) {
        hasil = Celcius * 1.8f + 491.67f;
        System.out.println("Konversi Celcius ke Rankine : " + hasil + "
Ra");
    }

    float hitungRankine(float Celcius) {
        return Celcius * 1.8f + 491.67f;
    }

    void hitungDalisle(int Celcius) {
        hasil = (100 - Celcius) * 1.5f;
        System.out.println("Konversi Celcius ke Dalisle : " + hasil + "
De");
    }

    float hitungDalisle(float Celcius) {
        return (100 - Celcius) * 1.5f;
    }

    void hitungNewton(int Celcius) {
        hasil = Celcius * 33 / 100;
        System.out.println("Konversi Celcius ke Newton  : " + hasil + " N");
    }

    float hitungNewton(float Celcius) {
        return Celcius * 33 / 100;
    }

    void hitungReaumur(int Celcius) {
        hasil = Celcius * 0.8f;
        System.out.println("Konversi Celcius ke Reaumur : " + hasil + " R");
```

```
    }

    float hitungReaumur(float Celcius) {
        return Celcius * 0.8f;
    }

    void hitungRomer(int Celcius) {
        hasil = Celcius * 21 / 40 + 7.5f;
        System.out.println("Konversi Celcius ke Romer   : " + hasil + "
Ro");
    }

    float hitungRomer(float Celcius) {
        return Celcius * 21 / 40 + 7.5f;
    }
}
```

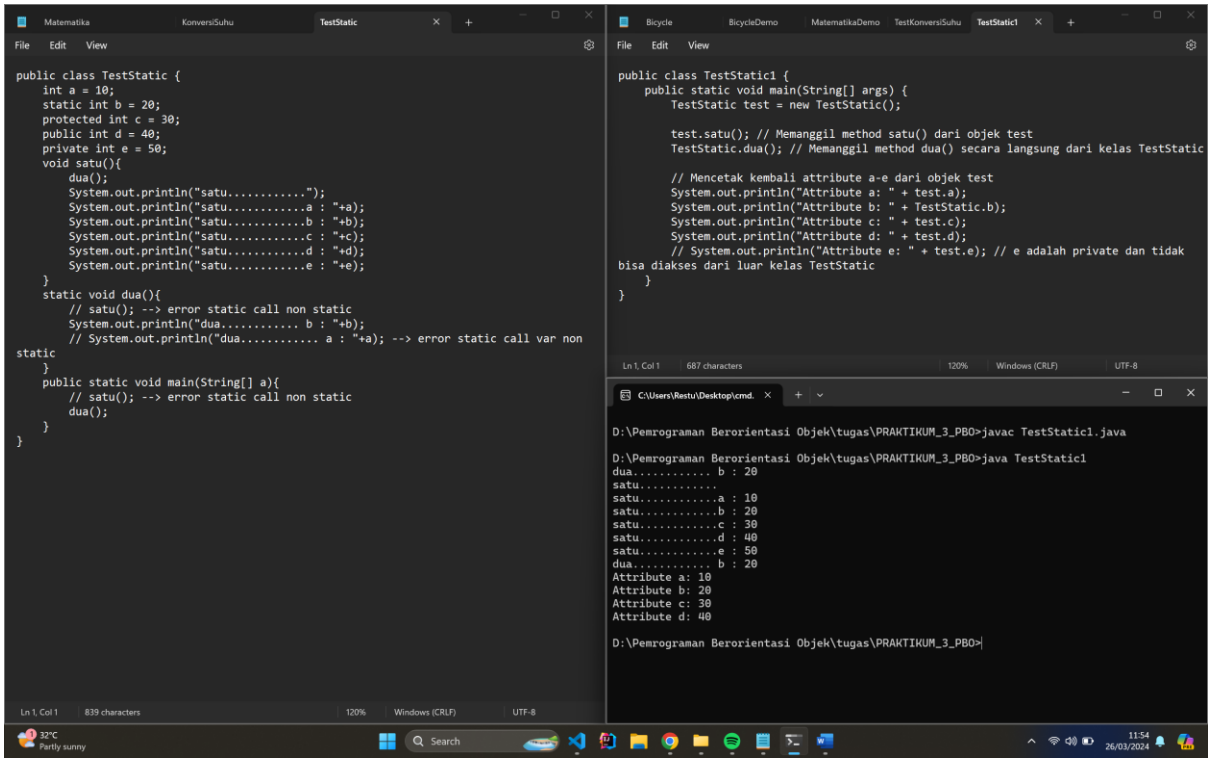
Code TestKonversiSuhu.java

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

        KonversiSuhu Suhuku = new KonversiSuhu();
        Suhuku.hitungKelvin(23);
        System.out.println("Suhunya : " + Suhuku.hitungKelvin(23.5f) + "
K");
        KonversiSuhu Suhu = new KonversiSuhu(35);
        Suhu.inputCelcius();

        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);
    }
}
```

Output


Command Prompt
D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>javac TestKonversiSuhu.java
D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>java TestKonversiSuhu
Konversi Celcius ke Kelvin : 296.15 K
Suhunya : 273.15 K
Input Cecius: 33
Konversi Celcius ke Kelvin : 306.15 K
Konversi Celcius ke Farhenheit : 91.399994 F
Konversi Celcius ke Rankine : 551.07 Ra
Konversi Celcius ke Dalisle : 100.5 De
Konversi Celcius ke Newton : 10.0 N
Konversi Celcius ke Reaumur : 26.4 R
Konversi Celcius ke Romer : 24.5 Ro
D:\Kuliah\Semester 4\PBO\PBO\PRAKTIKUM_3_PBO>

Latihan 3



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 static call non static
        System.out.println("dua..... b : "+b);
        // System.out.println("dua..... a : "+a); --> error static
call var non static
    }
    public static void main(String[] a){
        // satu(); --> error static 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
    }
}
```

Output