

Zid'Avwa Al Bari'i

244107020083 / TI-2I / 26

## PBO Teori

### Exercise 1

```
src > J kausangjava > Jurusan
1 public class Jurusan {
2     private String nama;
3     private String akreditasi;
4
5     public void setNama(String nama) {
6         this.nama = nama;
7     }
8
9     public String getNama() {
10        return this.nama;
11    }
12
13    public void setAkreditasi(String akreditasi) {
14        this.akreditasi = akreditasi;
15    }
16
17    public String getAkreditasi() {
18        return this.akreditasi;
19    }
20
21    public void tampilkanInfo() {
22        System.out.println("Major: " + nama);
23        System.out.println("Accreditation: " + akreditasi);
24    }
25 }
```

```
src > J Mahasiswajava > Mahasiswa > getNIM()
1 public class Mahasiswa {
2     private String NIM;
3     private String nama;
4     private Jurusan jur;
5
6     public Mahasiswa(String nim, String nama, Jurusan jur) {
7         this.NIM = nim;
8         this.nama = nama;
9         this.jur = jur;
10    }
11
12    public void setNIM(String nim) {
13        this.NIM = nim;
14    }
15
16    public String getNIM() {
17        return this.NIM;
18    }
19
20    public void setNama(String nama) {
21        this.nama = nama;
22    }
23
24    public String getNama() {
25        return this.nama;
26    }
27
28    public void setJur(Jurusan jur) {
29        this.jur = jur;
30    }
31
32    public Jurusan getJur() {
33        return this.jur;
34    }
35
36    public void tampilkanInfo() {
37        System.out.println("Student ID: " + NIM);
38        System.out.println("Student Name: " + nama);
39        jur.tampilkanInfo();
40    }
41 }
```

```
src > J TestMahasiswajava > TestMahasiswa > main(String[])
1 public class TestMahasiswa{
2     Run | Debug
3     public static void main(String[] args) {
4         Jurusan jur = new Jurusan();
5         jur.setNama(nama:"Teknologi Informasi");
6         jur.setAkreditasi(akreditasi:"A");
7
8         Mahasiswa mhs = new Mahasiswa(nim:"111001", nama:"Jones", jur);
9         mhs.tampilkanInfo();
10    }
11 }
```

```
Student ID: 111001
Student Name: Jones
Major: Teknologi Informasi
Accreditation: A
```

## Exercise 2

```
src > J Engine.java > ...
1 public class Engine {
2     private int capacity;
3     private String fuelType;
4
5     public void setCapacity(int capacity) {
6         this.capacity = capacity;
7     }
8
9     public int getCapacity() {
10        return this.capacity;
11    }
12
13    public void setFuelType(String fuelType) {
14        this.fuelType = fuelType;
15    }
16
17    public String getFuelType() {
18        return this.fuelType;
19    }
20
21    public void displayInfo() {
22        System.out.println("Engine Capacity: " + capacity + " cc");
23        System.out.println("Fuel Type: " + fuelType);
24    }
25 }
```

```
src > J Motorcycle.java > ...
1 public class Motorcycle {
2     private String brand;
3     private String color;
4     private int maxSpeed;
5     private int currentSpeed;
6     private Engine engine;
7
8     public void setBrand(String brand) {
9         this.brand = brand;
10    }
11
12    public String getBrand() {
13        return this.brand;
14    }
15
16    public void setColor(String color) {
17        this.color = color;
18    }
19
20    public String getColor() {
21        return this.color;
22    }
23
24    public void setMaxSpeed(int maxSpeed) {
25        this.maxSpeed = maxSpeed;
26    }
27
28    public int getMaxSpeed() {
29        return this.maxSpeed;
30    }
31
32    public void setEngine(Engine engine) {
33        this.engine = engine;
34    }
35
36    public Engine getEngine() {
37        return this.engine;
38    }
39
40    public void increaseSpeed(int value) {
41        if (currentSpeed + value <= maxSpeed) {
42            currentSpeed += value;
43        } else {
44            currentSpeed = maxSpeed;
45        }
46    }
47
48    public void decreaseSpeed(int value) {
49        if (currentSpeed - value >= 0) {
50            currentSpeed -= value;
51        } else {
52            currentSpeed = 0;
53        }
54    }
55
56    public void displayInfo() {
57        System.out.println("Brand: " + brand);
58        System.out.println("Color: " + color);
59        System.out.println("Max Speed: " + maxSpeed + " km/h");
60        System.out.println("Current Speed: " + currentSpeed + " km/h");
61        engine.displayInfo();
62    }
63 }
```

```
src > J TestMotorcycle.java > ...
1 public class TestMotorcycle {
2     Run | Debug
3     public static void main(String[] args) {
4         Engine eng = new Engine();
5         eng.setCapacity(capacity:150);
6         eng.setFuelType(fuelType:"Petrol");
7
8         Motorcycle mtr = new Motorcycle();
9         mtr.setBrand(brand:"Yamaha");
10        mtr.setColor(color:"Red");
11        mtr.setMaxSpeed(maxSpeed:180);
12        mtr.setEngine(eng);
13
14        mtr.increaseSpeed(value:60);
15        mtr.decreaseSpeed(value:20);
16
17        mtr.displayInfo();
18    }
19 }
```

```
Brand: Yamaha
Color: Red
Max Speed: 180 km/h
Current Speed: 40 km/h
Engine Capacity: 150 cc
Fuel Type: Petrol
```

