

Week 3

📌 Subject	Object Oriented Programming
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📌 Type	Assignment
📌 Semester	Semester 3
📅 Time	@September 17, 2023

Jobsheet 1

Question 1

1. because, in order to increase the speed of the motor, we need to turn on the machine first so that we can't increase the speed while the machine off
2. so that the user can't access freely the speed and the condition of the contact
3. change the code to this

```
public void tambahKecepatan()
{
    if (kontakOn == true)
    {
        if (kecepatan >= 100)
        {
            System.out.println("kecepatan sudah mencapai batas maksimal!");
        }
        else
        {
            kecepatan += 5;
        }
    }
    else
    {
        System.out.println("Kecepatan tidak bisa bertambah karena Mesin Off!\n");
    }
}
```

Questions 2

1. getter is a method that used to get a return value from private attribute while setter is a method that doesn't have return value that used to manipulating value from private attribute
2. `getSimpanan()` is used to get the value of `simpanan` that is being private by returning the available value
3. to increase the value, we can use `setor()` method
4. constructor is a method, but doesn't have a return and used to create a new object that being executed instantly
5. to create constructor, we must:
 - a. make the name of the constructor same as the class
 - b. doesn't have return value
 - c. can't use abstract, static, final and synchronised modifier
6. in java it's possible to use constructor as private
7. we use passing parameter while we want to instantiate any function
8. class attribute is any variable that is bound in a class, while instantiation attribute is act of calling a class's constructor, which creates an instance or object of that class
9. class method is methods that are called on the class itself, not on a specific object instance, while instantiation method is creating new instances of objects to be used in a program

Task

1. output

```
Name : James
Age : 30

Process finished with exit code 0
```

2. because, in the `EncapDemo` class we write the `setAge()` method as `if(age > 30)age = 30;` so that any age that above 30 will set as 30
3. change the `setAge` method to

```
public void setAge(int newAge)
{
```

```
        if(newAge < 30 && newAge > 18) age = newAge;
    }
```

4. class `Anggota`

```
package task;

public class Anggota
{
    private String nama;
    private String code;
    private int pinjaman, jumlahPinjaman;

    Anggota(String code, String nama, int pinjaman)
    {
        this.code = code;
        this.nama = nama;
        this.pinjaman = pinjaman;
    }

    public String getNama()
    {
        return nama;
    }

    public void angsur(int uang)
    {
        jumlahPinjaman -= uang;
    }

    public int getLimitPinjaman()
    {
        return pinjaman;
    }

    public int getJumlahPinjaman()
    {
        return jumlahPinjaman;
    }

    public void pinjam(int pinjam)
    {
        if (pinjam > pinjaman) System.out.println("Maaf, jumlah pinjaman melebihi limit.");
        else jumlahPinjaman += pinjam;
    }

}
```

5. change the function of `angsur` into

```

public void angsur(float uang)
{
    if (uang < pinjaman*0.1) System.out.println("Maaf, angsuran minimal 10%");
    else jumlahPinjaman -= uang;
}

```

6. change the `TestKoperasi` class into

```

package task;

import java.util.Scanner;

public class TestKoperasi
{
    public static void main(String[] args)
    {
        Anggota donny = new Anggota("111333444", "Donny", 50000000);
        System.out.println("Nama Anggota: " + donny.getNama());
        System.out.println("Limit Pinjaman: " + donny.getLimitPinjaman());

        Scanner input = new Scanner(System.in);
        System.out.print("Masukkan pinjaman: ");
        float pinjaman = input.nextFloat();
        donny.pinjam(pinjaman);
        System.out.println("Jumlah pinjaman saat ini: " + donny.getJumlahPinjaman());
        System.out.print("Masukkan Angsuran: ");
        float angsuran = input.nextFloat();
        donny.angsur(angsuran);
        System.out.println("Jumlah pinjaman saat ini: " + donny.getJumlahPinjaman());
    }
}

```