Encapsulation:

1. **Encapsulation** is a process of wrapping **Data and their methods** together into a single unit is called **Encapsulation**.
2. We can create a fully **Encapsulated Class** by making all the **Data Members** of the class **Private**.
3. Now we can use **Setter and Getter Methods** to set and get the data in it.

Advantages of Encapsulation:

1. The two major advantages of **Encapsulation** are **Security and Easy Maintainability** or easy to enhance our code.
2. Since we mark our **Fields** as **Private** they are **Secured**.
3. That they can be accessed by **Getters and Setters Methods**.

```java
package com.dl.one;

public class Product {

// If there is no Encapsulation the field is accessed outside the class
int id;
String pName;
}
```

```java
package com.dl.one;

public class ProductImpl extends Product {

public static void main(String[] args) {

ProductImpl impl = new ProductImpl();
impl.id = 101;
impl.pName = "Samsung";
System.out.println(impl.id);
System.out.println(impl.pName);
}
}
```

```java
package com.dl.two;

public class Product {
// If there is no Encapsulation the field is accessed outside the class
int id;
String pName;

//with setters and getters we are changing their type and breaking the code
public String getId() {
return String.valueOf(id);
}
public void setId(String id) {
this.id = Integer.parseInt(id);
}

public String getpName() {
return pName;
}
public void setpName(String pName) {
this.pName = pName;
}
}
```

```java
package com.dl.two;

public class ProductImpl extends Product {

public static void main(String[] args) {

ProductImpl impl = new ProductImpl();
impl.setId("101");
impl.setpName("Samsung");

System.out.println(impl.getId());
System.out.println(impl.getpName());

}
}
```

```
public class Register {
// If there is Encapsulation the field is not accessed outside the class
private String fname;
private String lname;
private String gender;
private int age;
// setters and getters
}
```

```
public class RegisterImpl extends Register {
public static void main(String[] args) {

RegisterImpl r = new RegisterImpl();
r.setFname("Sai");
r.setLname("Kumar");
r.setGender("Male");
r.setAge(25);
System.out.println(r.getFname());
System.out.println(r.getLname());
System.out.println(r.getGender());
System.out.println(r.getAge());
}
```