

# Polymorphic Behavior via Java interface

## Lab / chapter 10

- 1) Save all the previous files in a folder named `suttononlineshopusinginterface` (change my lastname to your lastname). This is the package where you save and run your project.
- 2) Open a new java file and name it `BookInterface` and save it in the package folder `suttononlineshopusinginterface`.
- 3) Copy the following code to your `BookInterface.java`:

```
package suttononlineshopusinginterface;

public interface BookInterface extends ProductInterface {
    public String getPublisher();
    public void setPublisher(String publisher);
    public int getYearPublished();
    public void setYearPublished(int yearPublished);
}
```

- 4) Modify `Book.java` to implement the `BookInterface`.
- 5) Open a new java file and name it `ProductInterface` and save it in the package folder.
- 6) Add the following code to your `ProductInterface` class:

```
public double computeSalePrice();
public double getRegularPrice();
public void setRegularPrice(double regularPrice);
```

- 7) Open new file and name it `ElectronicsInterface` and save it in the package folder.
- 8) Add the following code:

```
package suttononlineshopusinginterface;

public interface ElectronicsInterface extends
ProductInterface {

    public String getManufacturer();

}
```

9) Make sure to implement those interface classes to **Electronic**, **Product** and **Book** Classes.

10) Run your **main.java**. Figure below should be the result in the output window of the ID:

```
Item number 0: Type = suttononlineshopusinginterface.TV, Regular price = 1000.0, Sale price = 800.0
Item number 1: Type = suttononlineshopusinginterface.TV, Regular price = 2000.0, Sale price = 1600.0
Item number 2: Type = suttononlineshopusinginterface.MP3Player, Regular price = 250.0, Sale price = 225.0
Item number 3: Type = suttononlineshopusinginterface.Book, Regular price = 34.0, Sale price = 17.0
Item number 4: Type = suttononlineshopusinginterface.Book, Regular price = 15.0, Sale price = 7.5
totalRegularPrice = 3299.0
totalSalePrice = 2649.5
```

11) In this exercise, you built your OnlineShop project and exercised the polymorphic behavior through implementing methods of an interface. **Take a screenshot of your outputs from step 7 and submit as attachments.**