TASK GUIDE (C1.07)

A. Objectives.

Students can create data binding models.

B. Requirements.

Hardware:

- 2 GB RAM minimum, 8 GB RAM recommended
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- Intel processor with support for Intel VT-x, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality

Software:

- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- JDK 8
- Android Studio IDE (Minimum 3.2) with AndroidX library.

C. Resources.

Documents:

- Guide

Supplement files:

Test code:

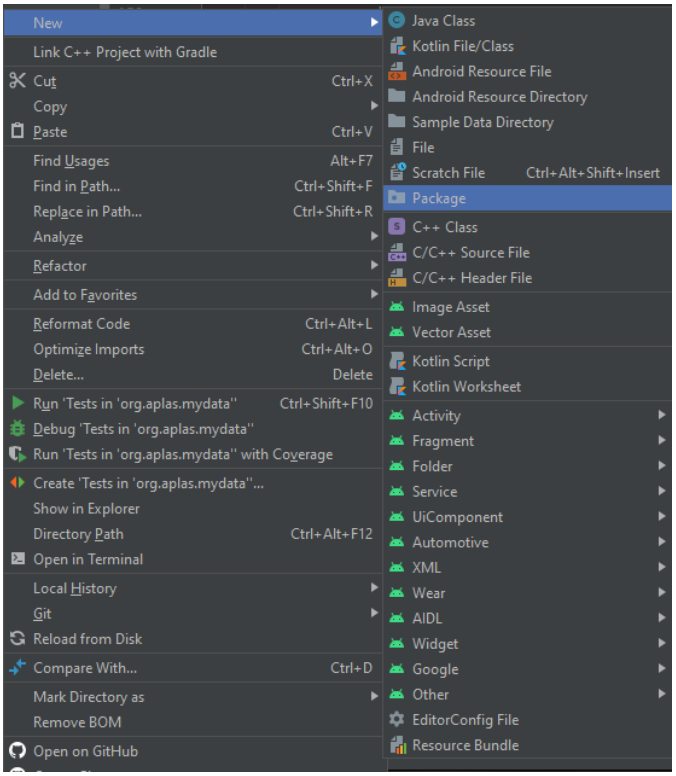
- TestC1MyLibrary051.java

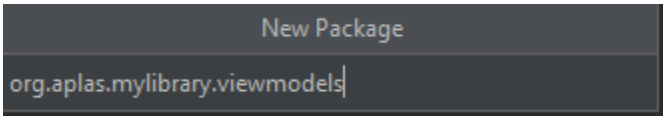
D. Task Description.

Student start to learn make data binding. Which Data Binding to save the value from activity to another activity.

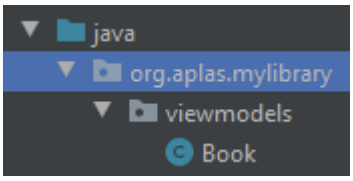
E. Specification.

1. Create new package with name “models”





2. Create a new java class in “viewmodels” package with name “Book.java”



3. Open “Book.java” to set all variable based table below

```
<modifier> <type> <variable>;
```

Variable	Type	Modifier
bookNumber	String	public
bookTitle	String	public
bookType	String	public
bookYear	String	public

4. Modify the constructor in “Book.java” like below

```
public Book() {
        setBook(0, "", "", "");
    }

    public Book(int number, String title, String type, String year){
        setBook(number, title,type,year);
    }
```

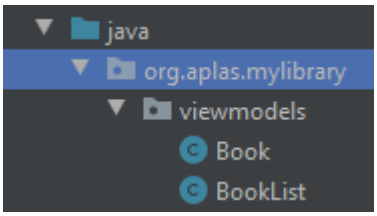
5. Create a method to set with name “setBook” with variables

Variable	Type
number	int
title	String
type	String
year	String

6. Create method with name “ordinal” with modifier private for add letter suffixes in “bookTitle”.

```
private String ordinal(int i) {
        String[] suffixes = new String[] { "th", "st", "nd", "rd",
"th", "th", "th", "th", "th", "th" };
        switch (i % 100) {
            case 11:
            case 12:
            case 13:
                return i + "th";
            default:
                return i + suffixes[i % 10];
        }
    }
```

7. Create class in “viewmodels” package with name “BookList.java”



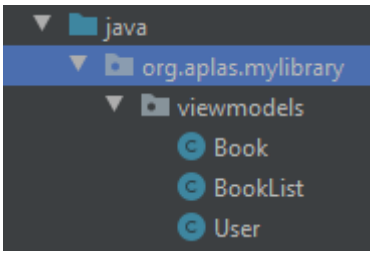
8. Import databinding.BaseObservable to make development Data Binding easier

```
import androidx.databinding.BaseObservable;
```

9. Create to set method with name “setBookList” with variable array “list” and add “notifyPropertyChanged” to “booklist”. “notifyPropertyChanged” used to notice when property change.

```
public void setBookList(ArrayList<String> booklist) {
        this.list = booklist;
        this.size = booklist.size();
        notifyPropertyChanged(BR.list);
        notifyPropertyChanged(BR.size);
    }
```

10. Create class in “viewmodels” package with name “User.java”



11. Modify “User.java” and extend BaseObservable like below

```
public class User extends BaseObservable{
    public String profile;
    public int color;

    public User(){

    }
```

12. Modify the constructor in “User.java” like below

    A class that implements the Observable interface allows the registration of listeners that want to be notified of property changes of on the observable object.

```
    public User(String name, String country, String
phone){
        setProfile(name,country,phone);
    }
```

13. Create to get and set in “User.java” with name “getProfile” and “setProfile”. The to get fill with return to profile. The to set fill with profile and “notifyPropertyChanged”. The profile has variable

Variable
name
country
phone

F. Testing.

1. Copy “TestC1MyLibrary051.java” file to “org.aplas.mylibrary (test)” folder.

2. Right click on the “TestC1MyLibrary051.java” file then choose Run. It may take long time to execute.

3. Get the result of your task. If passed you will get green check like below. If the test failed, you will get orange check get the messages and you must check your work again.

You have to try until get all green checkes and continue to the next task.