

# Semester 2, Week 6 – eTest– 23<sup>rd</sup> February 2018

---

You must do this exercise completely on your own on a College computer. You must not communicate with any other person (other than the invigilators) in any way. You have 50 minutes in which to address this problem and submit the solution on Blackboard. The only applications you may use are as follows:

- Eclipse or any other development environment on the College machines.
- A web browser. You may only access <http://mymodule.tcd.ie/> (the Trinity Blackboard system) to view the coding standard and/or to submit your program at the very end of the session.

## **The Problem:**

Download the following from [goo.gl/VBnkxS](http://goo.gl/VBnkxS) and use it in your program:

- 1) books.txt; 2) Book.java; 3) ChargeCard.java; 4) OnlineBookStore.java

Develop a program that allows books to be purchased from an online book store by updating **OnlineBookStore.java**. The program currently reads books from file and stores them in a collection. You are required to update the program to 1) present all the book details to the user; 2) get the book that the user is interested in; 3) allow the user to top-up his/her charge card; and 4) allow a user to purchase books one at a time. To develop this program, you are required to update **OnlineBookStore.java** with the following methods (**do not alter the mainline**):

### **1. public static void printBookDetails(ArrayList<Book> bookList)**

This method is required to print (to the console) the details (isbn, title, author, publisher, publish year, quantity and price) of each book in bookList.

### **2. public static Book getBook (ArrayList<Book> bookList, String title)**

This method is required to return the Book object which has a title that matches the title provided, otherwise it returns null. You can assume the titles in bookList are unique.

### **3. public static void topUpCard(ChargeCard card, double amount)**

This method is required to top-up the charge card with the amount specified.

### **4. public static void purchaseBook(ArrayList<Book> booksList)**

This method is required to

- Ask the user to enter the funds (positive number) in his/her card. Use this amount to create and top-up a ChargeCard object.
- Within a loop, ask the user to enter the book title he/she would like to purchase. Get the Book from the collection that matches this title. Ensure there is at least one copy of this book and sufficient funds in the card. What should happen to the quantity variable and the funds when a book has been purchased? Allow the user to make more purchases or quit.
- Display all error and success messages to the user for a and b above.

**Submit OnlineBookStore.java on Blackboard using the eTest 3 link.**