SYSC 2004 C and D: Object-Oriented Software Development **Lab No 10:** [**1** mark]

This Lab No 10 is about *defensive programming* and its main goal is to learn about *handling errors* and how to implement *exception handling* effectively in Java. To this end we will be reusing the *address-book-v3t* project from Chapter 14. Source code for this project is available in cuLearn in the general block (Chapter 14). Open the *address-book-v3t* project.

1. The *address-book-v3t* project includes some throwing of *unchecked* exceptions if parameter values are **null**. The project source code also includes the *checked* exception class **NoMatchingDetailsException**, which is currently unused. Modify the **removeDetails** method of **AddressBook** so that it throws this exception if its key parameter is not a key that is in use. Add an *exception handler* to the **remove** method of **AddressBookTextInterface** to catch and report occurrences of this exception.

2. Make use of **NoMatchingDetailsException** in the **changeDetails** method of **AddressBook**. Enhance the user interface so that the details of an existing entry may be changed. Catch and report exceptions in **AddressBookTextInterface** that arise from use of a key that does not match any existing entry.

You also need to document your classes and their methods using the Javadoc tool integrated with BlueJ.

To test your work, you need to create adequate objects in the object bench. Test that all methods that involve checked and unchecked exception work as expected.

Important Notes and Submission Guidelines:

You start first by identifying the classes and interfaces, then reading the source code of *address-book-v3t* project and identifying client and server objects and methods that involve checked and unchecked exception.

You have to do and pass a demo using BleueJ with your teaching assistant (TA) in the lab room or during her/his office hours. Your TA will lead you and conduct and run the tests of your programs and evaluate your work. You are also allowed to do your demo using your own laptop.