CIS2344 Algorithms Processes and Data

# Practical 16: hashtables

## Activity 1 (Portfolio Task):

Implement classes **PhoneBookEntry**, **PhoneBook** and **User** that provide the following functionality:

* Class PhoneBookEntry:
  + Stores details of a phone book entry, including full name (i.e. both surname and name), phone number, email, and address
  + Creates a human friendly representation of the class (i.e. toString())
* Class PhoneBook:
  + Stores phone book entries in a map based on their details, where details are mapped as: “full name” → “entry”, namely phone book entries are stored in map of type:   
    Map<String, PhoneBookEntry> (note that duplicates of full names are not allowed)
  + Phone book entries can be inserted (an entry for a new full name), updated (updating an entry for an existing full name) or deleted (deleting an entry for an existing full name)
  + Prints the details of an existing entry (if present in the phone book) by searching the phone book based on a given full name (thus showing the corresponding number)
  + Prints all entries within the phone book
* Class User:
  + Creates a phone book instance and subsequently inserts, updates, removes, and prints phone book entries

Discuss your progress with your Tutor during practical sessions.

**What to include in your Portfolio:**

* **Report:** Describe in your report which parts of **Activity 1** have been successfully implemented
* **IntelliJ Project:** Include your Java code for **Activity 1** in your IntelliJ project under package "Practical\_16"