**Software Engineering 1 BN509 - November 2016**

Assignment 1

**Date of Issue:** 14th November 2016

**Due Date:** 12th December 2016

**Background**

This assignment will test your knowledge of:

* Methods
* Arrays
* Array searching
* Array sorting
* Array processing

**Specification**

A banking institution requires a simple program for processing and analysing account holders’ details. For simplicity and ease of testing reasons, the bank has a relatively small number of account holders (maximum of 20). The program should provide the following functionalities:

1. Allow the user to enter the number of account holders the bank has (a value between 1 and 20);
2. Allow the user to enter an account holder’s name;
3. Allow the user to enter an account balance (a value greater or equal to 0.00).
4. When data entry is complete, display a menu with the following options:

* Display average account balance;
* Display the highest account balance;
* Display lowest account balance;
* Sort & Display the account balances in descending order;
* Search for an individual account holder by name;

1. For each of the above functions, you are required to implement an appropriate **method.**

**Marking –** you will receive marks for the following:

1. All work attempted and submitted.

2. The quality of your solution design and your report describing this in detail.

3. The quality of your code and in-program documentation (comments).

4. A bug-free, fully tested, working application.

**Deliverables**

1. A **Java application** including source code and .class file(s) – **worth 50%;**
2. A **repor**t that describes the logic of your program and each method’s implementation; the report should also include supporting screenshots of the application running for each of the options listed above, as well as a reference list where you acknowledge the resources used, such as: books, journal articles, websites, lecture notes and help from colleagues (note that ITB has 0 tolerance towards plagiarism) – **worth 50%.**
3. Your Java files and your report should be placed in a **zipped folder that is labelled using your student number**, for example B0001234.zip. This file should be upload to Moodle by **5pm on 12.12.2016**. Your assignment must be submitted using Moodle, other methods will not be accepted.
4. **Late submissions will lose 40%.** If there are special circumstances that prevent you from completing your assignment in time, you should contact me or the course coordinator as soon as possible.