CO322 Data Structures and Algorithms

Lab 04: Simple Linked List

23rd February, 2017

Aim

The aim of this lab class is to recap some of the programming techniques discussed in CO225 by
implementing a simple data structure using them.

Exercise

You are required to implement a linked list using Java. You should use Java generics to ensure that the list is type-safe and that it can support any data type.

Your list should implement the following interface:

Interface	Description
public void add(<T> data)	Add the given data item to the head of the list. Should not fail.
public boolean isEmpty()	Return true if the list is empty.
public boolean hasElements()	Return true if there is at least one element in the list.
public <T> remove()	Remove the item at the head. Return null if the list is empty.

Implement this list in a file called **MyList.java**.

Implement a main function in a file **Main.java** to test your implementation. You should pick suitable test cases based on your implementation.

Submission

Submit the two files as a single tarball via the moodle link.

Deadline: 12 noon on 04th March, 2017