Exercises 7: Specification of Linked Datastructures

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The solutions to the exercises will be discussed on Thursday, 9th July.

Problem 1

In accompanying archive you find the files `List.java`,`LinkedList.java`,`LinkedListNonEmpty.java` and `ArrayList.java`. The interface `List` specifies a common list interface the other files provide two independent implementations of this interface.

Your task is to specify the methods of the interface and classes as complete as necessary to specify the methods behavior in an abstract ad modular way:

- model and/or ghost fields for the list content and framing of a suitable type

- accessible clauses to frame the model fields, invariants etc.

You need only to provide normal behavior contracts for the methods.

Problem 2

Given a function f : Heap × Object → any and a constant symbol acc : LocSet. Formalize as formula in dynamic logic that the value of function f depends at most on the locations contained in acc.