

# Software Workshop 1 - Lecture 2

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## 1 Higher-order functions

Higher-order functions are functions that do at least one of the following actions:

- takes one or more functions as a parameter
- outputs a function

The most notable examples are: map, fold and filter. The implementation in Java of higher functions using lists requires the following classes/interfaces:

**List.java** Defines the interface for Nil and Cons

**Nil.java** Defines the empty list (base case)

**Cons.java** Defines the non-empty list (recursive case)

**Action.java** Defines a procedure/action (i.e. does not return any value)

**Function.java** Defines a 1-1 function (1 input, 1 output)

**Function2.java** Defines a 2-1 function (2 inputs, 1 output)

**Predicate.java** Defines a function that takes a single argument and returns a boolean

Check src folder for the implementation.