

Functional Programming

Exercises Week 4

(for October 31, 2014)

1. Read Chapter 4 of the lecture notes.
2. Compute (on paper) the Huffman encoding for the text: `FUNCTIONAL`
3. Exercise 4.3
4. Exercise 4.8
5. Exercise 4.9
6. Implement the operations `map` and `fold` for binary trees.

```
map : ('a -> 'b) -> 'a t -> 'b t
fold : ('b -> 'a -> 'b) -> 'b -> 'a t -> 'b
```

7. (★) Define the `remove` operation for the 2-3-trees in the module `TwoThree`. The operation must preserve the invariant that the tree is balanced.