

## Assignment 3

Due by 2:30 p.m. on Tuesday, March 16

The context for this assignment is Chapter 2 of *DAWOC* and the core and standard OCaml libraries.

### Correctness of Model Answer to Assignment 2

This assignment consists of part of the correctness proof of the model answer to Assignment 2.

#### Exercise 1 (40 Points)

Prove the *Fundamental Lemma for Annotated Lists*.

#### Exercise 2 (40 Points)

Prove that `boundedFind` is correct. This will involve proving that its auxiliary function `find` is correct. You should assume the correctness of all previously defined auxiliary functions, and the validity of assertions made previously, including *Valid Choice Lemma 1* and *Valid Choice Lemma 2*.

#### Exercise 3 (20 Points)

Prove that `minimalEdits` is correct. This will involve proving that its auxiliary function `loop` is correct.

### Submission

I will be away from Manhattan and K-State from the evening of Tuesday, March 9, until when the assignment is due. Unless you want to submit your work before I leave, you will have to submit it by email.

You have two options:

- You may prepare your solution using  $\text{\LaTeX}$  or some other document processing system, and send me the PDF.
- You may write your solution by hand, scan it into PDF, ensure it is readable, and then email that to me.