
Module 7a: Two One-Of Types

CPSC 110

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Learning goals

- Be able to produce the cross-product of type templates table for a function operating on two values with one-of types.
- Be able to use the table to generate examples and a template.
- Be able to use the table to simplify the function when there are equal answers in some cells.

Function Model: Cross Product of Type Comments Table

- Cases of the `one-of` type comments go along the axes
 - The two arguments don't have to be the same type, but both must be a `one-of`
- Generate tests for each cross product cell in the table

Example for `ListOfString ListOfString -> x`:

los1 (right) los2 (down)	empty	(cons String ListOfString)
empty	both lists are empty	los1 is not empty, but los2 is empty
(cons String ListOfString)	los1 is empty, but los2 is not empty	both lists are not empty

In the video, we only had one test for each box, except for the bottom right. For “both lists are not empty,” we generated several more tests to satisfy **2-deep**, los1 longer than los2, los1 shorter than los2, and a few more conditions where the function passes or fails with 2 or 3 deep lists.

Terminology

- x