

Advent of Code - Day05

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Introduction

The motivation behind this solution is simple. We essentially have n piecewise-defined functions that we need to compose with one another. We will introduce some notation. Let I_j be the j -th interval for a given piecewise function or mapping. Note that if s is the source, d is the destination, and l the length of the interval, we can define f on the interval like so:

$$\forall x \in [s; s + l) : f(x) = (d - s) + x, x \in \mathbb{N}$$

We want to find the relationship between the I_j and the I_{j+1} intervals.

The Algorithm