Chapter 6 outline:

- Introduction, function equality, and dictionaries (last week Wednesday)
- Image and inverse images (last week Friday)
- Function properties and composition (Monday)
- Reducing and pipelining (**Today**)
- Cardinality (Friday)
- Countability and practice quiz (next week Monday)
- Review (next week Wednesday)
- Test 3, on Ch 5 & 6 (next week Friay, Nov 21)

Today:

- Big lessons
- Filter and map
- Reduce
- Pipelining

Which programming feature is analogous to which mathematical concept?

filter	applying a (binary) operator over a sequence of items
map	image
reduce	function composition
pipelining	subset

Lessons

- Functions are components.
- When used on sets, `filter` defines a subset and `map` computes an image.
- When used on lists, `filter` selects certain data points and `map` applies an operation or transformation on all of them.
- `reduce` applies a function sequentially over the items in a collection (or iterable).
- Use pipelines to chain transformations, such as with `map`, `filter`, and `reduce`.

For next time:

Do Exercises 6.5.(1, 3, 4, 8, 9, 10, 13, 14, 15)
(All programming)

Read Section 6.6 at some point—it is your choice whether to read it before class on Friday or after class.

Take quiz (does not require having read Section 6.6, just need to remember informal definition of cardinality from Section 1.7)