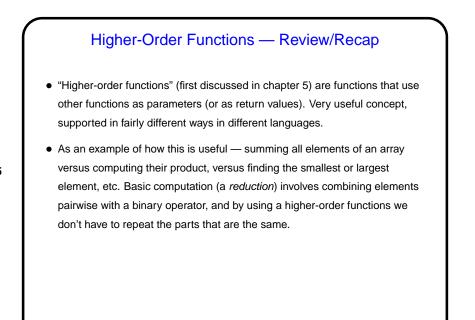


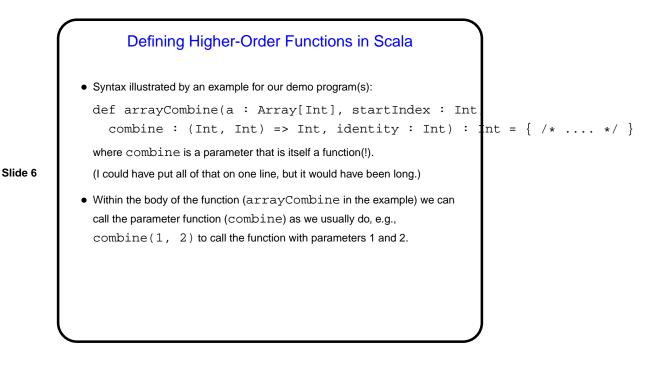


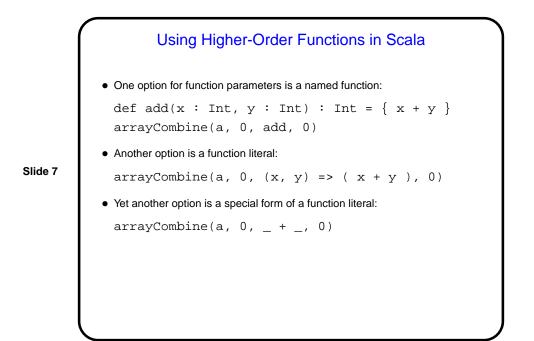
- Scala provides two basic types of "sequences", arrays and lists.
- Several ways to work with them. We start out by applying tools we already have (recursive functions), partly to get more practice with them. Also an opportunity to revisit "higher-order functions" (functions that use other functions as parameters) ...

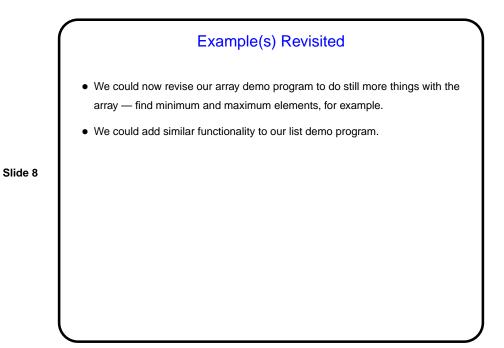
## Arrays and Lists and Recursion, More Examples

- We started with functions to read numbers into an array or a list and print them out. What else can we do with them? Lots of things ...
- We could write functions that take a collection of numbers and return a single number. Examples include sum, product, max, min, ...
- Slide 4
- But all of these functions basically do the same thing, right? the only thing that's different is how we combine two numbers into one. So maybe what we really want is a function one of whose parameters is a function ...









## Collection Methods — Overview

• As noted earlier, both arrays and lists provide a wide range of interesting(?) methods. ("Methods"? Briefly, special type of functions, described a bit in chapter 3.) The textbook lists some of them and is a good starting point. For full details, however ...

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## The Scala API

 In context, API means "Application Programming Interface". Meant as complete documentation of the language's library functions, methods, etc. Many languages and libraries have one of these.

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 The standard presentation of Scala's API is descended from Java and is nicely organized for online browsing (link from course "Useful links" page).
Worthwhile spending a bit of time learning how to find things in it (though not everything will make sense yet).



- things you can do with objects of whatever type it is (e.g., Ints). "o" shows things you can do with Int itself e.g., get minimum and maximum value.
- Some things are documented in unobvious places (e.g., ArrayOps, StringOps, RichInt).

