

Data Driven Recursion

9-13-2004







Opening Discussion

What did we talk about last class?
Most people like the pace. A few wanted faster, a few wanted slower.





The Complex Type

- Let's look at code that I've written to do complex numbers.
- Note that we have a "constructor" to build the abstraction, then other functions to do things with it.



Flat Recursion

- Functions that only play with the top level of a list are sometimes called flat. Most of what we have written has been of this type. What is the exception?
- We can write some others.
 - Merge merges two sorted lists into a single list.
 - Remove removes all instances of an item from a list.
- Let's take a second to look a bit closer at how recursion works by tracing one of these functions.



Deep Recursion

- Functions that not only recurse over the elements of a list, but also into the elements of a list are said to use deep recursion.
- We have done one of these, deep-count. Let's write two others.
 - Remove-all removes all occurrences of an item for a list and all its sublists.
 - Reverse-all reverses the list and all the sublists in it to any depth.





Minute Essay

- If we spend the second half of the semester on mostly ML, how many people would buy an optional textbook on it for ~\$50? I've been reading it and it is a nice book in many ways.
- Assignment #2 has been posted. It's due Friday so look through it and see if you have questions.

