Data Definition Guidelines: Structures

Example: a structure for capturing the name, weight, and favorite food for a boa

Data definition format:

;; A boa is a
;; (make-boa symbol number symbol)
(define-struct boa (name weight food))

Template format: the template pulls out all the fields from the structure

(define (fun-for-boa a-boa)
  (boa-name a-boa) ...
  (boa-weight a-boa) ...
  (boa-food a-boa) ...)
Data Definition Guidelines : Mixed Data

Example: a data definition for capturing various animals (boas, dillos, etc)

Data definition format:

;; An animal is
;;   - a boa, or
;;   - a dillo

Note that no define-structs are needed because we are only naming a set of possible animals. We are not introducing any new kinds of structures (assuming that boas and dillos are already defined).

Template format: the template does two things:
- decides which case of data we have
- pulls out any pieces of each kind of data

(define (fun-for-animal an-ani)
 (cond [(boa? an-ani) ...
 (boa-name an-ani) ...
 (boa-weight an-ani) ...
 (boa-food an-ani) ... ]
 [(dillo? an-ani) ...
 (dillo-weight an-ani) ...
 (dillo-dead? an-ani) ... ]))

Note how this builds on templates for structures: within each case, if the case captures a structure, we pull out the same information as in the template for that structure.