

# STRUCTURES WORKSHEET

*Adapted from "Structures in Four Passes", Todd O'Bryan, duPont Manual High School, Louisville, KY*

For each structure below, write the data definition and the function template. Write everything in Dr. Racket. Also define 3 examples of each data type giving them good names. Put just the template in a comment box.

1. A **book** in a bookstore's inventory system has an author, a title, a section ("young-adult", "computer", "science-fiction", etc.), and a price.
2. **Songs** in a computer song database have a title, artist, CD, genre, and playing time. (To keep it easy, we'll assume the total time is in seconds.)
3. A **class** at a university has a department, a course number, a professor, and a number of credit hours.
4. An **auto** in a dealer's inventory has a make, model, year, price, and miles/gallon mileage estimate.
5. A **cat** has a location (assume two dimensions, so x and y coordinates), a speed, a direction (string), and a hunger rating (number). [Note: this would be useful in a computer animation.]