

Practice with Lists of Structures: The CD Store

We want to develop a database for a CD store. For each CD, the database must store its title, how many are in stock, and its category of music (such as 'fuddy-duddy', 'head-banging', 'country', or 'western').

Develop a data definition for CDs:

Provide at least 3 examples of CDs:

Develop the data definition for a list-of-CDs:

Provide at least 3 examples of a list-of-CDs (using examples for CDs developed above):

Write a template for functions over CDs:

Write a template for functions over list-of-CDs:

When you have completed this worksheet, type in your definitions and use DrScheme to check that your examples are valid. Then ask a staff member for a list of problems to write over these data definitions.

Functions Over the CD Store

1. Write a function `total-stock` that consumes a list-of-CDs and produces the total number of CDs available.
2. Write a function `category-stock` that consumes a symbol (category) and a list-of-CDs and produces a list of all the CDs that are in the given category and in stock.
3. [CHALLENGE – if you want a non-challenge 3rd problem, ask the course staff]

Write a function `unique-categories` that consumes a list-of-CDs and produces a list of categories in the list-of-CDs. The output list should contain no duplicates.