CMSC105 : Fundamentals of Computer Programming

Vikas Sindhwan	
University of Chicago
Department of Computer Science
vikass@cs.uchicago.edu

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Abstract
More about Structures
More on Structures: Exercises

- Syntax and Semantics (**define-struct**, Constructors, Selectors): Exercises 6.3.2

- Structure and Data Definitions: Exercise 6.4.1, 6.4.2
Designing Functions for Compound Data

- Example: Assume that an airforce jet fighter has four essential properties: designation (’f22, ’tornado, or ’mig22), acceleration, top-speed, and range. Develop the function within-range. The function consumes a fighter record and the distance of a target from the (fighter’s) base. It determines whether the fighter can reach the intended target. Also develop the function reduce-range. The function consumes a fighter record and produces one in which the range field is reduced to 80% of the original value.

- Data Analysis and Design: Introduce the concept (fighter) using define-struct; Provide data definition

- Contract: The class of values is the name of the concept (fighter)

- Template: Use constructors and selectors to create instances of the concept and extract information.
Construct Examples

Body: Use the template to build the body
Programming Example - Moving Circles

Exercises 6.6.1-6.6.6