CS 3723: Programming Languages
Feb 10, 2012

You Name:

1. If a programming language supports functions as first-class objects, it must:
   (a) allow functions to be defined inside other function definitions;
   (b) support higher-order functions
   (c) support objects that contain member methods
   (d) Allow functions to be returned as values
   (e) Support anonymous functions to be defined;
   (f) Allow functions to be taken as parameters of other functions;

2. Which of the following correctly defines the concept of higher-order functions?
   (a) Functions that are defined inside other functions.
   (b) Functions with return values.
   (c) Anonymous functions (i.e., functions without names).
   (d) Functions that take parameters
   (e) Functions that take other functions as parameters
   (f) Functions that take other functions as parameters or return other functions as results

3. Write a Scheme function map which takes two parameters, a function f and an arbitrary data structure x, and returns a corresponding data structure which contains the result of applying f to each atomic value contained inside x.