Textbook Assignment #2: Names, Scopes, and Bindings

Issued: Thursday, October 10
Due: Thursday, October 31

Purpose

This assignment asks you to think about the management of names in programming languages: scope (aka, visibilty), extent (aka, lifetime), and binding (i.e., meaning).

Be careful to answer all of an exercise's questions.

Textbook Exercises

Edition 4: question 3.2, page 167.

Consider variable allocation. Give only Pascal and Scheme examples. They don't need to compile/execute.

Edition 4: question 3.4, page 167.

Consider live, but invisible, variables. Your examples need not compile/execute.

Edition 4: question 3.5, page 167.

Consider declaration order.

C#, prior to version 7 (2016), doesn't allow nested function definitions, but pretend it does. Further, pretend a nested function definition can only access its local variables.

Edition 4: question 3.7, page 169.

Analyze memory bugs. Figure 3.16 is within the exercise.

Edition 4: question 3.14, page 171.

Consider static and dynamic scope.

Edition 4: question 3.18, page 173.

Consider shallow and deep binding.