## Project #6

CpSc 8270: Language Translation
Computer Science Division, Clemson University
Final Project: Python Functions & Scope
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## **Due Date:**

In order to receive credit for this assignment, your submission must be submitted, using the web handin command, by 8 AM, Monday, December  $5^{th}$  of 2016. If you are unable to complete the project by the first due date, you may submit the project within three days after the due date with a ten point deduction.

## **Project Specification:**

- 1. Your solution should handle integer and float values and variables, print, assignment, and the same expressions as the previous project, including  $\{x + y, x y, x * y, x/y, x//y, x\%y, x**e, (x), -x, +x\}$ ; and,  $\{x + y, x y, x * y, x/y, x/y, x\%y, x**e, (x), -x, +x\}$ ;
- 2. In addition, your solution should handle Python functions, illustrated in Figure 1. In particular, Figure 1a will earn 90%, Figures 1b, 1c, and 1d, will earn an additional 10% each, for a total of 120%.
- 3. In all cases, the oracle for correctness is a Python 2.7.n interpreter; that is, your expressions should evaluate, sans extended precision, to the same result that a Python 2.7.n interpreter would produce.
- 4. In the directory that contains your working interpreter, place a new directory titled cases that contains test cases that adequately test your interpreter.
- 5. Write a test harness, test.py, and place it in your project folder so that it runs the test cases in cases.
- 6. Your code should be well organized, formatted, readable, free of memory leaks, and exploit proper object orientation.

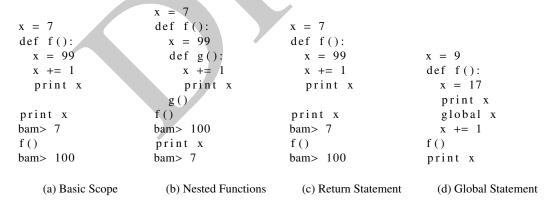


Figure 1: Examples of the Levels of Interpreter and Function Implementation.