Project #5

CpSc 8270: Language Translation
Computer Science Division, Clemson University
Python Functions, Scope & Decision
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Due Date:

In order to receive credit for this assignment, your project must be submitted, using the web handin command, by 8 AM, Friday, December 1st of 2017. 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 be able to translate those constructs from the previous project, including integer and float values, variables, print, assignment, and the expressions specified in the previous project.
- 2. For this project, your solution should be able to translate Python functions, including scope resolution and return value propogatoin, illustrated in Figure 1.
- 3. In addition, your solution should translate if/else. You are not required to translate elif.
- 4. In all cases, the oracle for correctness is a Python 2.7 interpreter; that is, your expressions should evaluate, sans extended precision, to the same result that a Python 2.7 interpreter would produce.
- 5. In the directory that contains your working interpreter, place a new directory titled cases that contains test cases that adequately test your interpreter.
- 6. Write a test harness, test.py, and place it in your project folder so that it runs the test cases in cases.
- 7. Your code should be well organized, formatted, readable, free of memory leaks, and exploit proper object orientation.

Light at the end of the tunnel:

In the final project, Project #6, we will translate actual and formal parameters and recursion.

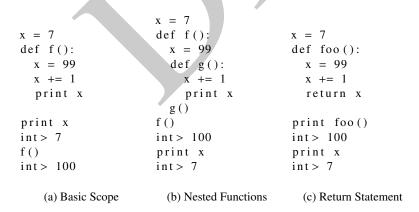


Figure 1: Examples of Python Function Translation.