

Project #5
CpSc 8270: Language Translation
Computer Science Division, Clemson University
Python Interpretation & Symbol Table
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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, Tuesday, November 22nd 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. Incorporate the new scanner into your interpreter. You can find the new scanner in the course repo at:

`8270Assets-2016/projects/5/newscanner`

2. Build an Abstract Syntax Tree (AST) to represent your Python code and use the AST for the interpretation of the code.
3. Permit interpretation of two types of variables: integer and float.
4. Your solution should interpret the same expressions as the previous project; in addition, you should also interpret all forms of assignment such as: `{x = y, x+ = y, ...}`. To implement assignment you must build a symbol table.
5. In all cases, your expressions should evaluate, sans extended precision, the same as a Python 2.7.n interpreter would evaluate them.
6. The test harness, `alltest.py`, should show that your interpreter passes all but 7 test cases.
7. In the directory that contains your working interpreter, place a new directory titled `cases` that contains test cases that adequately test your interpreter.
8. Write a test harness, `test.py`, and place it in your project folder so that it runs the test cases in `cases`.
9. Your code should be well organized, formatted, readable, and exploit proper object orientation.