

Project #4  
CpSc 8270: Language Translation  
Computer Science Division, Clemson University  
**Introduction to an Interpreter for Python 2.7.2**  
Brian Malloy, PhD  
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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, Thursday, October 27<sup>th</sup> 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:

The Python web site provides the source for all versions of Python and, for this project, you will be using a version of the grammar for Python 2.7.2 that has been converted from EBNF to a format compatible with the bison parser generator. The bison parsable grammar, a scanner, main program, and Makefile are provided for your use in a directory in your repo:

`8270Assets-2016/projects/4/`

Your tasks include:

1. Insert semantic actions into the parser to evaluate expressions of the form `print <expr>`, where `<expr>` is an expression involving integers, sans extended precision, and operators as follows: `{x + y, x - y, x * y, x / y, x // y, x % y, x ** e, (x), -x, +x}`. For an explanation of Integer Division and Modulus: <http://python-history.blogspot.com/2010/08/why-pythons-integer-division-floors.html>
2. All expressions should evaluate to the result that you would obtain if you used the Python interpreter.
3. In the directory that contains your working interpreter, place a new directory titled `cases` that contains test cases that adequately test your interpreter.
4. Write a test harness, `test.py`, and place it in your project folder so that it runs the test cases in `cases`.
5. Your code should be well organized, formatted, readable, and exploit proper object orientation.

Compress your project directory and submit your project in the usual manner. Your project directory should be organized as follows:

