CS4713 Program #2 (40 pts) due 2/21/2017 Scanner Part 2 and First Group Assignment

This is Part 2 of the Compiler/Interpreter Project. Larry provided (or will provide):

* p2Input.txt
* Multiple additional input files to test some error handling

In this part, you will add the following:

1. SymbolTable methods using a HashMap
   * getSymbol
   * putSymbol
   * initGlobal
2. Symbol Table entry classes: STEntry, STIdentifier, STFunction, STControl
3. Scanner features:
   * combine 2 character operators (e.g., <=, >=, !=, ^, ==)
   * skip comments
   * convert strings to correct representation depending on whether planning to do a compiler (with C as target) or interpreter
   * classify "and", "or", "not", "in", "notin" as operators
   * recognize control flow/end tokens (e.g., if, endif, else, while, endwhile, for, endfor)
   * recognize control declare tokens (Int, Float, String, Bool)
   * recognize boolean constants (e.g., T, F)
   * provide access to currentToken and nextToken

Output:

* Output each statement and its tokens. It is OK, if your output prints the next statement prior to printing the last token of the previous statement.
* If you are doing the interpreter, you must use a hexDump routine to print the value of character string literals.

Recommend:

* responsibilitites:
  + one person for all symbol table work including initialization of global table and each of its STEntry classes/subclasses
  + one person for Scanner
  + one person handle utilities:
    - skipping a comment
    - (future) date recognition and validation
    - Numeric class
    - others
* software:
  + Scanner, Token
  + SymbolTable, STEntry, STFunction, STControl, STIndentifier
  + New Havabol utility class, Numeric Class

Notes:

1. If you did not complete Program #1, you are not allowed to work in a group.
2. Cross group sharing of code prohibited and violations will result in a zero for this and subsequent programs.
3. **Everyone** on the team must upload a note stating:

- team name

- team leader (who will be turning in the assignment)

- team members (max of 3)

The team leader must upload everything necessary for the assignment.

1. **Team Leader** must upload a zip file containing:

- each .java source file

- output files for each test file

- current decision file:

* doing interpreter or doing compiler (this impacts strings)
* doing only prefix or doing infix (by pgm #3)

- a document specifying:

|  |  |  |
| --- | --- | --- |
| Source File Name | Primary Responsible Team Member | Reviewer |
|  |  |  |
|  |  |  |

1. It is assumed that the class HavaBol contains the main() method.
2. Your code must run correctly on a fox server.