Assignment 5

Due date

- noon on Nov 22nd.

Submit your code as per the provided instructions.

Updates

Assignment Goal

File Modification Visitors

- You are required to use ANT for the following:

  - Compiling the code
  - running the code
  - Generating a tarball for submission

- Your code should compile and run on *remote.cs.binghamton.edu* or *bingsuns* or the *debian-pods* in the Computer Science lab in the Engineering Building.

Project Description

File Processing Decorators

- Design a visitor, PopulateVisitor, that reads from an input file and stores it in a tree. You can decide what kind of tree to use. The visitor should return a reference to this tree. The element for this visitor is the name of the input file. All assumptions about the input file in assignment-4 are also applicable here.
- Design a visitor, PalindromeHighlight, that takes the tree as an element, created by the previous visitor, and updates the tree's content by modifying all the Palindrome words, greater than 3 characters, to be capitalized. Please note that except creating the tree, PopulateVisitor should store any information in the tree to help this visitor.
- Design a visitor, PrimeLength, that takes the tree as an element, which was returned by the previous visitor, and updates the tree's content by modifying all the words whose length is a prime number, by adding a suffix "-PRIME" to the string.
- Design a visitor, PrintTree, that takes the tree as an element, which was returned by the previous visitor, and prints the tree's distinct words, in ascending (alphanumeric) order, in the output file.
- From the command line accept the input file name, output file name, and debug level.
- We will run your code using ANT in the following way. You should accept input.txt and output.txt as command line arguments.

  ```
  ant -buildfile src/build.xml run -Darg0=input.txt  -Darg1=output.txt Darg2=debugLevel
  ```

- Your driver code should create the visitors, elements (if needed), and then the elements should accept the visitors.
- Design your own debug scheme, similar to what was used in the previous assignment.

Sample Input Files from Students

. Please note that I have not verfied these input files. If you find any error, or have any comments, please send them to the instructor via email.

- Your directory structure should be the following:

  ```
  lastName_firstName_assign5
    ---fileVisitors
      ----- README.txt
      ----- src
        -----build.xml
        -----fileVisitors
            ----------driver
                        ----------Driver
  ```

```
---------visitor
         ---------VisitorI.java
         ---------PopulateVisitor.java
         ---------PalindromeHighlight.java
         ---------PrimeLength.java
         ---------PrintTree.java
---------util
         ---------FileProcessor.java
---------other packages that you need
```

Code Templates

- None provided for this assignment.

Submission

- Same as Assignment-1.

Late Submissions

- The policy for late submissions is that you will lose 10% of the grade for each day that your submission is delayed.

Grading Guidelines

TBA

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