CECS 547 Assignment 3 Due March 26, 2015. 300 points.

Write a program (any language) that does the following for either Java, C#

1. Determine the number of keywords, user defined identifiers (primitives only), constants and special characters as follows:  
    a. the number of unique keywords, user defined identifiers, etc - that is, not counting duplicates  
    b. the total number of keywords, UDI, etc counting duplicates.  
2. Store the data extracted in a SQL accessible database integrated into your program. Store by package and class.

3. Provide simple GUI for accessing the database by package and then by class.

Output can be simple text and processing may be batch or interactive as you see fit. It is strongly advised that you employ some type of parsing technology such as yacc, Bison, ANTLR or Gold Parser.

You may earn 100 bonus points by

1. creating a nice GUI for this (50) the entire process of selecting and scanning the files, and storing and retrieving the data from the database

2. count and present for a file the number of characters in it, the number of white space, the number of chars in comments and the overall percentage of white space and comments to chars.

For example:

package ageofmythology;

import javax.swing.JDialog;

import javax.swing.JFrame;

public class AgeOfMythology {

public static void main(String[] args) {

int x, y, z=1;

x = 2;

x = x + z;

}

}

//output

package ageofmythology

unique keywords = 7 //*package,import,public,class,static,void,int*

unique UDIs = 3 //*x,y,z*

unique constants = 2 //*1,2*

unique special chars = 11 //*;{}()[],=+.*

total keywords = 9 //*package,import,public,public,import,*

//*class,static,void,int*

total UDIs = 7 //x,y,z,x,x,x,z

total contants = 2 //1,2

total special chars = 24

class AgeOfMythology

unique keywords = 5 //*public, class, static, void, int*

unique UDIs = 3 //*x,y,z*

unique constants = 2 //*1,2*

unique special chars = 10 //*;{}()[],=+*

total keywords = 9 //*public, public, class, static, void, int*

total UDIs = 7 //x,y,z,x,x,x,z

total contants = 2 //1,2

total special chars = 17