The main required functions of this program are to be:

Reading a file (using the scanner class)

Processing each word (creating a new Word object for each)

Counting syllables (within Word objects)

Performing calculations with statistics

Outputting data to a file

* **Word** - this class (at minimum) should store a word delimited by "whitespace" (as defined below) and provide a method (**getSyllableCount**) for calculating and returning the number of syllables in the word.
  + Counting syllables (from Big Java, 3rd Ed., Cay Horstman): "To make this simpler, use the following rules: Each group of adjacent vowels(a,e,i,o,u,y) counts as one syllable (for example, the "ea" in "real" contributes one syllable, but the "e...a" in "regal" count as two syllables). However, an "e" at the end of a word doesn't count as a syllable. Also, each word has at least one syllable, even if the previous rules give a count of 0."
* **Document** - this class (at minimum) should:
  + provide a **main** method that allows user to select an input text file using a JFileChooser (see Chapter 11 and [this example](http://asulearn.appstate.edu/file.php/30755/JFileChooserDemo.java) which allows the user to select a file break it into words based on a set of delimiter characters).
  + provide a constructor that takes a **File** object parameter and uses this to read and parse the text document. (A Scanner can be created from a **File** object as well as a **FileReader** object--shown in the example).
  + stores a list (or other collection) of **Word** objects (built from parsing the text document).
  + provide a method (**getFleschIndex**)for returning the Flesch readability index (rounded to nearest integer):

**Index = 206.835 - 84.6 \* (number of syllables/number of words) - 1.015 \* (number of words/number of sentences)**

* + NOTE: BEWARE OF INTEGER DIVISION! To compute the index you may need to type cast one or more of your integer variables to make sure you don't lose precision.
  + provide methods for returning the document's word count (**getWordCount**), sentence count (**getSentenceCount**) and syllable count (**getSyllableCount**).
  + Sentences end with a period, colon, semicolon, question mark, or exclamation mark.
  + Words consist of alphanumeric characters only (letter and/or numbers); anything else (that is not a sentence delimiter) is considered "whitespace" for the purposes of this program.
  + provide a method (**displayDocStats**) for displaying the document statistics on the console window.
  + provide a method (**writeDocStats**) that writes the same information to an output text file (using a JFileChooser to specify the file and a **PrintWriter** to write it). The document statistics format is:
    - Readability Index: xxx
    - Educational Level: *(based on table in book)*
    - words: xxxx
    - syllables: xxxxx
    - sentences: xxxx