OOD 1

InvertedIndex - Abstract Superclass
Attributes
- HashMap<String, HashSet<Document>> indexOfDocs
    - HashMap made up of String word keys and a HashSet of Documents
- HashSet<Document> documents = new HashSet<Document>( )
    - HashSet of documents from the user
- StopList stopList = new StopList( )
    - New stopList object with stopList of stopWords

Methods
- InvertedIndex( ) - constructor
    - Constructs an InvertedIndex object with a HashMap index
- addDocument(String word, Document doc)
    - Adds a document to the document HashSet, then the HashSet to the index
- HashSet<Document> buildSingleWordQuery(String queryWord, HashSet<Document> documents)
    - Builds a HashSet of documents using a single-word query for them
    - Returns singleWordQuery
- HashSet<Document> buildMultiWordQuery(HashSet<String> queryWords, HashSet<Document> documents)
    - Builds a HashSet of documents using a multi-word query for them
    - Returns multiWordQuery
- String displayIndex( )
    - translates the index into a printable String for the CLI
    - Returns a String of the index

StopList - Concrete Class (extends InvertedIndex)
Attributes
- HashSet<String> stopWords
    - A list of stopWords such as "the"

Methods
- StopList( ) - constructor
    - Constructs a StopList object with a stopList
- boolean isStopWord(String docWord)
    - Determines whether a word is a stopword
    - Returns true or false

Document - Concrete Class (extends InvertedIndex)

<u>Attributes</u>
- String name
    - Name of the document
- HashSet<String> fileWords
    - Original text of the file in a HashSet
- String asRead
    - the original text as it is read

<u>Methods</u>
- Document( ) - constructor
    - Constructs a Document object with a name and file words
- Iterator<String> iterator( )
    - Creates an Iterator for Documents for use in other classes
    - Returns an Iterator of Strings for Document objects
- String myName( )
    - Returns name of the Document

CLI - Concrete Class

Usage: java CLI <stoplist> <docs>

<u>Attributes</u>
- String userQuery
    - User's input into the Scanner
- InvertedIndex ii
    - InvertedIndex object

<u>Services</u>
- usage( )
    - Prints a usage message when they try to run the CLI
- CLI(String [] args)
    - Constructs a CLI object using a string array of arguments
- main(String [] args)
    - Runs the program
    - Instantiates a CLI object to run arguments with