Lab01 - Secret message

Due: Fri Apr 4, 2014

Here is a secret message… from me to you:

http://wtkrieger.faculty.noctrl.edu/csc161/secret_message.txt

You need to decode it. To win.
Go!

- The secret message uses a rotation cypher. It is encoded by rotating all the characters in the file by a fixed amount. For example, rotating the letter ‘a’ three positions gives ‘d’. Rotating the word “Test” 3 positions gives “Whvw”. Make sense?

- So, you need a general-purpose character rotation decoder. You need to run it a few times (less than 26) and find the right rotation amount so that the message makes sense.

- What do you win? Who knows. Decode the message and find out. Lab 01 prizes are provided by the good people of **the CCIW**, the College Conference of Illinois and Wisconsin. (www.cciw.org)

- Please implement your classes using this Decoder interface:
  - http://wtkrieger.faculty.noctrl.edu/csc161/Decoder.java

- Things I used in this lab:
  - `BufferedReader.readLine()` to read lines of text from a file
  - `PrintWriter.println()` to write lines to a file
  - `String.toCharArray()` to turn a String into an array of chars
  - The String ctor to build a String from an array of chars: `String( char [])`
  - `Scanner.nextLine()` and `Scanner.nextInt()` to get user input like our textbook does
  - Java’s modulo operator, `%`
  - In Java, you can shift letters like this: `char ch = (char) (‘a’ + 3) // ch is ‘d’`

We’ll talk about this more in class.
Thanks, Bill

PS - We’ll add a twist on Wednesday.

The Wednesday Twist

If you are still working on your decoder, please continue on that.

If you've finished your decoder, please print it out and I'll review it. We'll spend some time to make it beautiful.

Q1 - Can you turn your Decoder into an Encoder?
Here's the interface: wtkrieger.faculty.noctrl.edu/csc161/Encoder.java

Q2 - Can you automate your decoding process. As you rotations from 1-25 chars, is it possible to automate choosing with rotation is correct to decode the mesage?

One possible hint: en.wikipedia.org/wiki/Most_common_words_in_English