Lab03 - Quote Generator

Due: Fri Apr 16, 2015

Please create a random quote generator and a GUI to play with it.
Concepts in Lab 03 include:

- ❏ Chapter 11 - interface, abstract class
- ❏ Chapter 12 - exceptions
- ❏ Chapter 13 - advanced GUI stuff like menus and such
- ❏ `BufferedReader.readLine()` and `ArrayList` and `JOptionPane`

I have some code for you on the k: drive, `lab03` folder. Copy these to your `lab03` folder:

- ● `QuoteGenerator.java` - the interface
- ● `QuoteGeneratorAbs.java` - an abstract class, implements the `quote()` method
- ● `ProfBillQuotes.java` - my example class for you to use for a while

I also have some data files. These are collections of fun quotes for you to use. Copy these too.

- ❖ `prof_bill_quotes.txt` - the file version of my array of quotes
- ❖ `forbes_inspirational_quotes.txt` - a bigger file of quotes from Forbes magazine

Part 1 - Console version

Please implement your own class that is-a `QuoteGenerator`. Your class will look similar to my `ProfBillQuotes`, but please read your quotes from a file instead of the bogus array that I used. Read the quotes in your file, one per line. Ignore lines where the first char is a #... these are comments.

So, your console version pseudo-code might look something like this:

> *Create a new QuoteGenerator object, specifying the quote file to use*
> > *Create an ArrayList to hold your quotes*
> > *Open the quotes file*
> > *Read each line in and store the line in your ArrayList*
> *Get a random quote using the quote() method*
> *Print it*

The goal of part 1 is to understand the interface, abstract class, and class paradigm. Look at old Snippets on the website for help on ArrayList and BufferedReader classes.

Part 2 - Exception!

In this part, you'll create your own exception class and add it to your QuoteGenerator code. Remember - adding a new exception includes 3 steps.

1. Create your new `Exception` class (is-a `Exception`) and modify the ctor
2. In the offending method, throw the exception. The method signature must reflect this!
3. You must try-catch the exception where the method is called.

Let's create an exception called `BadQuoteNumber`. This exception will be thrown by the method `quote(int num)` in `QuoteGenerator`. Throw the exception when the number passed in is bad: less than 0 or greater than the number of quotes.

Pointer: Ch 12 (page 757) which shows the creation of a new Exception class.

Part 3 - The GUI

Part 3 of our lab builds a simple GUI using our console `QuoteGenerator` class from Part 1. You GUI should include:

- A text window showing the current quote
- A menu bar with the menus: Lab03, Quote, and Format
- Lab03/About menu item: Display a text box proclaiming your authorship of Lab03
- Lab03/Exit menu item: exit the program
- Quote/Random menu item: Show a new random quote
- Quote/Info menu item: Show the number of quotes and their source description
- Format/Font menu item: Allow user to change the font of the quote text
- Format/Color menu item: Allow user change the color of the quote text

There's tons of code to help you in Chapter 13:

★ **page 824** - this is a great starting point as it sets up a window and menus very similar to ours. This example uses JMenuBar, JMenu, JMenuItem, ActionListener, JLabel (for displaying text) and even changes the color of text.
★ **page 836** - some tasty Font example code

Don't gag on Lab 03. Chew one bite at a time.

1. Get an empty window to show
2. Get a random quote to show up in a JLabel in your empty window
3. Add a menu bar with one menu, Lab03
4. Add all the menus, and then start adding menu items, one by one

Good luck!
thanks… yow, bill