

Lab02 - Quote Generator

Due: Fri Jan 16, 2015

Please create a random quote generator and a GUI to play with it.

Concepts in Lab 02 include:

- ❑ Chapter 11 - interface, abstract class
- ❑ `BufferedReader.readLine()` and `ArrayList`
- ❑ Chapter 13 - advanced GUI stuff

I have some code for you on the k: drive, lab02 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

Copy my files to your lab02 folder.

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. Reads the quotes in your file, one per line. Ignore lines where the first char is a `#`. Those are comments.

You'll find two example quotes files in my k: drive lab02 folder:

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

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
```

So, the goal of part 1 is to understand the interface, abstract class, and class paradigm. You also need to understand how to read the lines of a file and use an `ArrayList`.

Part 2 - The GUI

Part 2 of our lab builds a GUI using our console `QuoteGenerator` class from Part 1. (any of this sound familiar... cough... Program #1... sneeze... etc)

Your GUI should include:

- A text window showing the current quote
- A menu bar with the menus: Lab02, Quote, and Format
- Lab02/About menu item: Display a text box proclaiming your authorship of Lab02
- Lab02/Exit menu item: exit the program
- Quote/Random menu item: Show a new random quote
- Quote/Select menu item: Select a quote by number
- 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

We'll draw this GUI on the board in class.

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 02. 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, Lab02
4. Add all the menus, and then start adding menu items, one by one

Our text loves the "is-a" inheritance relationship between an app and `JFrame`. You can also create your app with the "has-a" (composition) relationship with its `JFrame`. Try this setup if you are adventurous.

Good luck!

thanks... yow, bill