Homework #4 Lexi and Bridge

Issued: Monday, March 28
Due: Wednesday, April 6

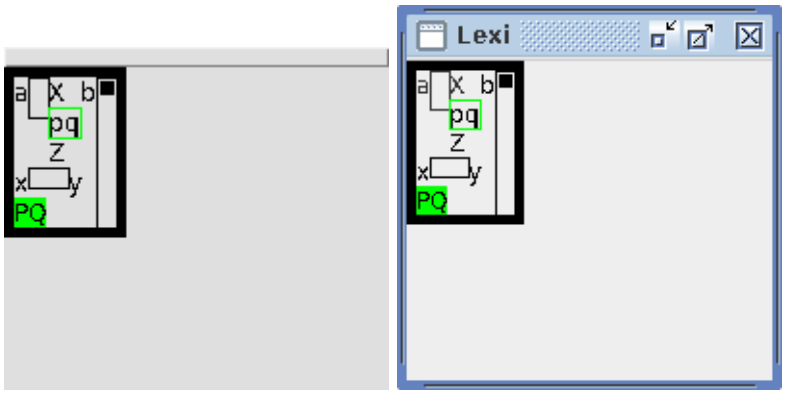
Purpose

This assignment allows you to learn about the Bridge(151) design pattern. You should also use AbstractFactory(87), FactoryMethod(107), and Singleton(127).

Assignment

Design (in UML) and implement (in Java) the Multiple Window Systems part of the Lexi editor, as described in Section 2.6 of our textbook. Support two window systems: AWT and Swing.

Test your solution with a simple graphical demonstration. For example, these are the results of my tests:



The left one is AWT. The right one is Swing.

Notes and Suggestions

- Use the design suggestions from our textbook.
- Use the window interface and implementations in:

  `pub/hw4`

  You may want to rearrange them a little, for your factories.
- Regarding Singleton(127): There should be only one WindowFactory object, either a SwingWindowFactory object or an AwtWindowFactory object. From it, a client can create any number of SwingWindow or AwtWindow objects (as appropriate). For example, each ApplicationWindow object should contain a reference to its own SwingWindow or AwtWindow object.
- As usual, casting is prohibited!
- As usual, indicate with a comment at the top of each source file, the relevant patterns and participants.
- Use the value of an environment variable to select the window system. For example:

```
String s=System.getenv("LexiWindow");
if (s!=null && s.equals("Awt"))
    ...
else
    ...
```