



COMPUTER SCIENCE 112 (Winter Term 2003)
Fundamentals of Programming II
Prof. Levy

Problem Set 5: Priority Queues

Due Friday 07 March

1 Reading Assignment: *Java: A Framework for Program Design and Data Structures*, chapter 8

2 Programming Assignment: Emergency Room

In this problem set, you will implement the Emergency Room Scheduler in Section 8.9 (pages 253-254) of the textbook. As in the Tamagochi assignment (PS2), there will be a model (`ERModel`) and GUI view (`ERView`), but in this assignment you will write both. You should base your design on the Javadoc provided. Instead of `BreezyGUI`, you will use the more up-to-date `BreezySwing`. So you will need to import `javax.swing.*` and `BreezySwing.*` in your `ERView` source code.

In your `ERModel` code you will be using the `LinkedPriorityQueue` class from the `Lamborne` package. You should download `lamborne.jar` from the class web site, and then add it to the BlueJ libraries by doing *Tools* → *Preferences* → *Libraries* → *Add* in BlueJ.

Here are some tips:

- In `ERModel`, use the priority queue methods described on pages 250-251 of the book.
- In `ERView`, use the `JLabel`, `JTextField`, `JButton`, `JRadioButton`, and `JTextArea` widgets. Each of these has a corresponding `add` method; for example, you create a `JRadioButton` using the `addRadioButton` method.
- In your `ERView` constructor, create a `ButtonGroup` and add each of the three radio buttons to it. This will ensure that clicking one radio button will turn off the other two.
- In your `ERView` constructor, call the `setSelected` method of the radio button for the “Fair” condition, so that button will be selected by default when the GUI is launched.
- Use the `append` method of the `JTextArea` widget to report a new message, and the `isSelected` method of the `JRadioButton` widget to determine which radio button has been selected.

You do not have to include an object model diagram or message diagram; just turn in the `ERModel.java` and `ERView.java` files in `home/turnin/cs112/yourid`, by midnight of the due date. No late work will be accepted.