# Homework 8

(Due December 8)

Submission:
- Submit your code in Canvas as one "ColorApp.java" file containing all your classes.
- The file must be able to be compiled and tested in Java.
  - o Consequently, the file must be in a simple text format; do <u>not</u> submit Word, PDF, RTF, JPG or any such types of files.
  - o Also make sure that any auxiliary information (such as your name) is commented out.

1. (100 pts) Write a Java application that implements a color sampler, with the following functionality:

- The graphical user interface is illustrated by the following picture:
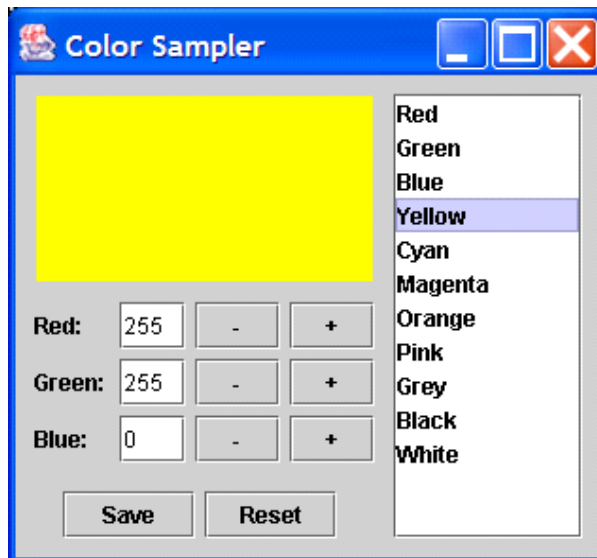
- Each color is described by its name and its red, green and blue components.

- Colors are read from a file called "colors.txt", with a format illustrated by the following example:

Red	255	0	0
Green	0	255	0
Blue	0	0	255

Yellow	255	255	0
Cyan	0	255	255
Magenta	255	0	255
Orange	255	100	0
Pink	255	20	145
Grey	125	125	125
Black	0	0	0
White	255	255	255

- For the currently selected color, the three text fields show its R, G, B values, while the top component (the "color sample") is painted with that color.
- The currently selected color can be modified by using the + and – buttons (preferably in increments of 5). Every time such a change occurs, the appropriate text field and the color sample must also change accordingly. In addition, a "*" must be appended to the window title, to show that the current color has been modified, but not saved. The following picture illustrates the application window during such changes:
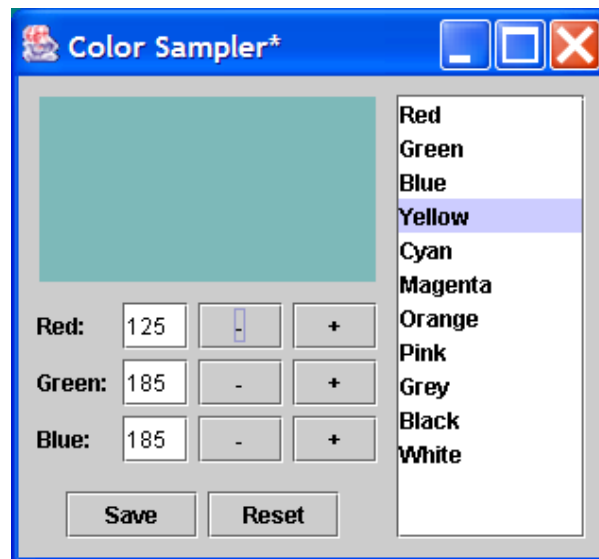
- Pressing the Save button causes the modified values for the current color to be retained. The "*" disappears from the window title.
- Pressing the Reset button causes the original values of the current color (or the ones last saved) to be restored. The text fields and the color sample must change accordingly. The "*" also disappears from the window title.
- If another color is selected from the list, any unsaved changes to the current color are lost.
- The colors (possibly modified and saved) are written back to the same file upon program termination.