Faculty of Science

Course: CSCI 2020U: Software Systems Development and Integration
Lab: #7
Topic: Loading Files

Overview

In this lab, you'll develop a Java program that loads data from a CSV file and draws a pie chart using the data collected. It is recommended, but not required, that you use IntelliJ for this lab.

Instructions

You can use any operating system or environment for this laboratory assignment.

You will create a new directory (or IntelliJ IDEA project) called `lab07`. The previous 2D graphics lab might serve as a useful starting point, since this lab also draws a pie chart. The colours to be used in that lab will also be the same for this lab.

Note: *you should draw the chart using the 2D graphics, solutions using libraries to plot charts will no be considered.*

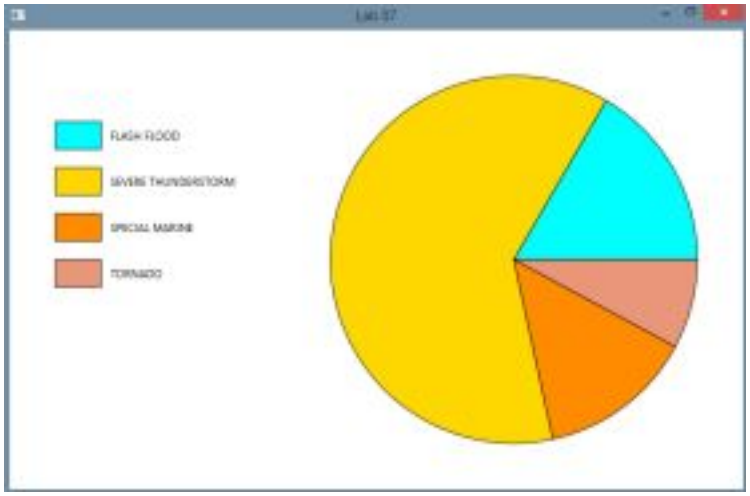
Load in the contents of the supplied data file (`weatherwarnings-2015.csv`), which contains a list of weather warnings in the US in 2015. The 6th column contains the type of warning (`FLASH FLOOD`, `SEVERE THUNDERSTORM`, `SPECIAL MARINE`, `TORNADO`). Count the number of each warning type.

Hint*: I suggest you use a Map to keep count.*

Create a pie chart of the counts of each warning type. The pie chart should be to the right of the window. On the left of the window should be a simple legend. The warning types, and how many warning types there are, should not be hard coded into your program but taken from the file itself.

Note*: See figure 1 for an example of the final product. You can use different colours, but the data displays the exact pie distributions.*

Figure 1: The running application, showing the chart and its legend



How to Submit

In session *(Preferably)*

- Show your running application to the TA to prove that you have finished this lab.
    - This can happen by your sharing your screen to the TA or direct messaging them with screenshots.
    - If your TA is too busy while helping other students in-session, you may follow the "after lab hours" submission instructions below instead.

After lab hours *(1 week to submit - before your next lab session)*

In one PDF documents attach the following:

- Screenshot of your local directory "lab07" showing the appropriate .java/.fxml files.
- Screenshot of your running application (UI) including the expected output.
- Link of your GitHub repository (if it is a public repository) -- this contains your full source code.
    - Alternatively, attach your project as a `.zip` along with the PDF file.

The TA can provide oral feedback if you do not receive full marks for any lab assignment, but it is most appropriate to ask the TA for this feedback in a timely fashion (i.e. ask now, not at the end of the term).