Parallel Programming
Prof. Sanft
Spring 2017
Homework 1

Due Monday, January 23 before the start of class. Submit your files to the homework1
link on the course Moodle page.

10 points total
1. (5 points) Recreate the plot below in the programming language or tool of your
    choice. You should do this programmatically (such as in Python, R or Matlab) rather
    than in a spreadsheet program (such as Excel). The purpose of this exercise is to
    demonstrate that you can write a program to read data from a text file and create
    simple plots.
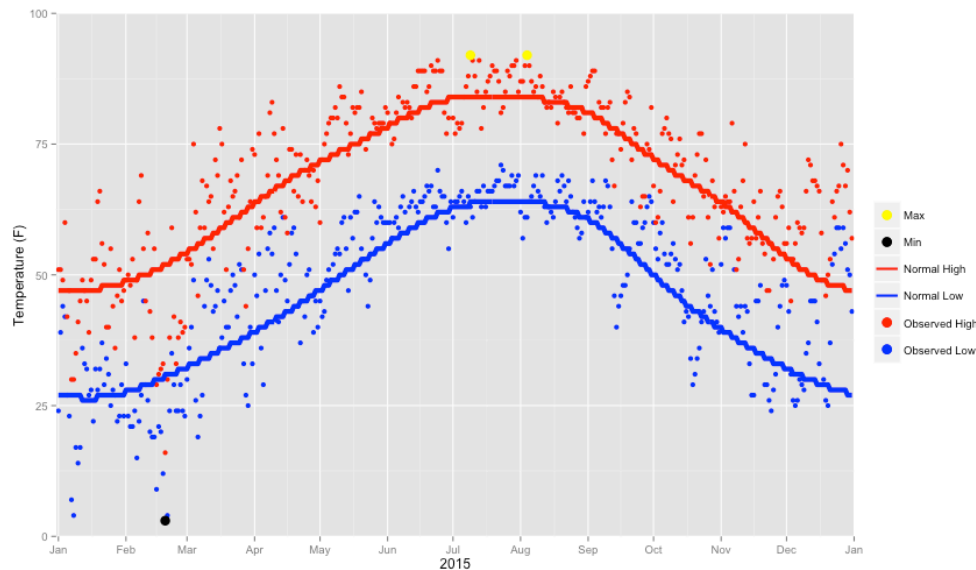
    The data is in weatherData.txt. Note that this is weather data for Asheville from
    2015. The average high and average low lines look jagged because the data is
    discrete (rounded to the nearest integer).

    The plot doesn't have to be identical. For example, the gray grid background isn't
    necessary. Also, the month labels could be replaced by "day of the year" from 1 to
    365. You can choose to create the visualization that makes sense to you. But you
    should know how to plot lines and dots of various types and combinations and you
    should know how to create axes labels and legends. (And although not requested
    here (see problem 2 below), you should be able to do calculations on columns, like
    computing average values or sums, and plot the results of those calculations.)

    Turn in two files: 1) the code you used to generate the plot, and 2) the plot (in any
    commonly used image file format—you should be able to save the plot
    programmatically, not by clicking "Save As" or similar.).

2. (5 points) Create a plot to visualize the difference between the average high
    temperature and the observed high temperature over the year. (Again, turn in two
    files: code file and image file.)