Homework/Summary Instructions:

Remember to follow the general guidelines in the 'homework.pdf' file. If you have any questions about or problems with the format contact us! To help you with the first homework /weekly summary we give you specific instructions:

Part I:

Download the new file KALB_201401.csv into your R-Studio folder (where you have KALB_201312.csv in your data folder). It contains the weather data from Albany Airport from January 2014, up to January 29th. Goto the web page
http://www.erh.noaa.gov/aly/Climate/Albany/ClimateALB.htm
and follow the link to the Jan 2014 data.

See if the days 30, 31 have been added to the data table on the web page.Fill the data into the KALB_201401.csv file.(blank entries in column 'WX' fill in with -99)

(Hint start R-studio, make sure you set your working directory for the session & load the data file KALB_201401.csv in, then edit it and save). Make a copy of your file albany1.R into albany2.R (albany1.R is in your local folder already). Load the program file albany2.R into R-studio and change the code such that it will work with the January 2014 data: KALB_201401.csv

AND MAKE SURE IT WILL CREATE A NEW PDF output file named KALB_temp_201401.pdf

Run the program line by line and eliminate any errors. In particular make sure that the data table is read correctly (check the read.csv() and its skip option!). Go through the code and identify inconsistencies: e.g. print statements, names of variables that could be misinterpreted if someone reads your program code). If everything worked okay you should have a plot with the daily max and min temperatures and the daily average temperature plus a line for the monthly average of the daily mean temperature.

Describe in normal language what the program albany2.R is doing in the sequence from the top line to the point where the PDF file with the graph is created! Use a precise and concise language! Describe what is shown in the graph:

What do the two axis represent?

What do the lines in the graph depict?

(1 page)

Part II:

In the lower part of the program:

(a) Explain what the function mean() is calculating?

(b) What is the statistical meaning of the value 'tmean'. Where is the value loacted compared with the daily temperature data?

(c) Use Google/Bing etc. and search for climatic average temperatures for Albany in the month January. How does our 2014 monthly mean compare with the 'normal' January temperatures?

Part III:

You may encounter an error in the calculation of the days with freezing temperatures, if you don't have all days from January in the data file. (check the loop statement starting with 'for (n in ...)') Try to solve the problem, and describe how you fixed it.Then compare the number of freezing days from Jan 2014 with those of Dec 2013, and argue about how meaningful such a comparison of the frequency and probability of freezing days is for two individual months.

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