Weather Analysis Program

1. Program Description and Specification:

A. State the Problem

Write a program to help display and analyze the weather in two cities over the course of one month. The program should read from both data files and display each of the files' information in a neat chart followed by a summary of the month, including average temperature and precipitation.

B. Analyze the Problem

Input Questions

What column does the user want the table sorted by?→ give the option of sorting by temp or precipitation (column 4 or 5)
Do they want to see a specific date's data displayed? If so, which date?→allows user to input their date in the format (mm/dd/yyyy)
where does the data come from?? → the data comes from txt files consisting of the following information separated by commas and a new line for each day
  - Month, day, year, temperature, precipitation
Data was collected from these reputable sources:
https://www.wunderground.com/history/monthly/us/la/new-orleans/KMSY/date/2018-5
https://www.wunderground.com/history/monthly/ca/winnipeg/CYWG/date/2018-5

Processing Questions

how do we calculate average temperature? → add up all of the temperatures from each day and divide it by the number of days in the month
How do we calculate the average precipitation ?→ same process as temperature
how do we sort by given column? → using if statements and bubble sort
How do we convert the month from number to words?→ using a list of months in words and returning the corresponding month based on the number given
Eg. 04 will return APRIL
How do we generate a general statement?→ if statements consisting of different temperature ranges determine if the average temperature of the month was hot or cold based on where it fell on the scale

Output Questions

what are we outputting? → City1 and City2 data from files in a chart, average temp and precipitation for city 1 and 2, general statement about temperature, and other user-specific

requests
how are we outputting? → screen

C. Determine the Specifications

- read files given
- Per file
  - Creates an object list of all the days in the month
    - Builds a chart out of it
    - Displays chart
  - Caluclates average temp and precipitation
    - Displays them in the separate chart along with a determined general statement about temperature
- Possibly diisplays date details and sorted charts