Lab 8
Dynamic Arrays/Files

PROGRAM SPECIFICATIONS

Meteorologists love to keep statistics on the weather. They often tell us the maximum temperature for some date, or the minimum value for some date, or even how long it has been since Spokane experienced a 60 degree day. Your task is to use dynamic arrays provide some of the same statistics that a meteorologist does.

Your task:
- Your data will come from a file named temps.txt – it should be specified on the command line but if not then you will need to prompt.
- The first line in the file will contain a month number (1 jan, 2 feb, 12 dec)
- The file will then contain that number of entries for the month, one per line. We won't worry about leap year so Feb will contain 28
- Create an array of the exact size needed
- Fill the array with the values from the file.
- Repeatedly display the menu that has the following choices
    1) Find and display the max temperature
    2) Find and display the min temperature
    3) Find and display the mean (average) temperature for the month
    4) Find and display the median temperature for the month
    5) Find and display the mode temperature for the month – if all the same then the lowest temp
    6) Allow the user to load a new temps.txt file
    7) Quit

You must range check menu entries

I have provided cscd240_lab8.c – As always you can't change my main – You can change the name of your .h file is all.

TO TURN IN

A **zip** file that contains: - **You better know the naming scheme by now**
- Your C source files – 3 file format is required
- An output run of your program named **cscd240lab8output.txt**
    o At least 2 runs over your program and make sure you test everything

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12
14
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-2
-5
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Welcome to the Weather Program

I have read that the temperatures are for February and there are 28 temperatures.

Please choose from the following:
1) Display the max temperature
2) Display the min temperature
3) Display the mean temperature for the month
4) Display the median temperature for the month
5) Display the mode temperature for the month
6) Load a new file
7) Quit
Choice --> -2

Invalid selection please try again

Please choose from the following:
1) Display the max temperature
2) Display the min temperature
3) Display the mean temperature for the month
4) Display the median temperature for the month
5) Display the mode temperature for the month
6) Load a new file
7) Quit
Choice --> 1

The maximum temperature was: 28

Please choose from the following:
1) Display the max temperature
2) Display the min temperature
3) Display the mean temperature for the month
4) Display the median temperature for the month
5) Display the mode temperature for the month
6) Load a new file
7) Quit
Choice --> 2

The minimum temperature was: -5

Please choose from the following:
1) Display the max temperature
2) Display the min temperature
3) Display the mean temperature for the month
4) Display the median temperature for the month
5) Display the mode temperature for the month
6) Load a new file
7) Quit
Choice --> 4

I have read that the temperatures are for March and there are 31 temperatures.

Please choose from the following:
1) Display the max temperature
2) Display the min temperature
3) Display the mean temperature for the month
4) Display the median temperature for the month
5) Display the mode temperature for the month
6) Load a new file
7) Quit
Choice --> 3

The average temperature was: 25.6 degrees