

# Temperature Log VI

## Goal

Modify a VI to create an ASCII file using disk streaming.

## Description

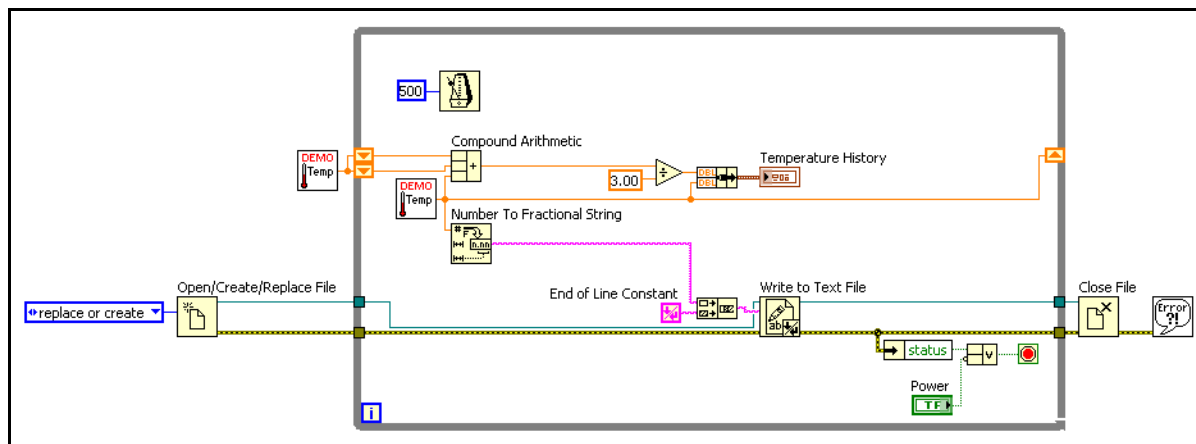
You have been given a VI that plots the current temperature and the average of the last three temperatures. Modify the VI to log the current temperature to an ASCII file.

## Implementation

The files that you need to complete this exercise are here: <NI eLearning>\LV Core 1\Understanding File I\_O\_2\Exercise.

1. Open Temperature Multipilot.vi from the <Exercise> directory.
2. Select **File>Save As** and rename the VI as Temperature Log.vi in the <Exercise> directory.

In the steps below, you modify the block diagram similar to that shown in Figure 1.



**Figure 1.** Temperature Log VI Block Diagram

3. Resize the While Loop to add room for the file I/O functions.

4. Create a file or replace an existing file for the data log.



- ☐ Add the Open/Create/Replace File function to the left of the While Loop.
- ☐ Right-click the operation input of the Open/Create/Replace File function, and select **Create»Constant**.
- ☐ Select replace or create in the enumerated constant that appears.

5. Write the temperature data to file, adding an End of Line constant to each piece of data.



- ☐ Add a Number to Fractional String function inside the While Loop.
- ☐ Add an End of Line constant inside the While Loop.
- ☐ Add a Concatenate Strings function inside the While Loop.
- ☐ Add a Write to Text File function inside the While Loop.
- ☐ Wire the inputs.

6. Stop the loop if an error occurs or if the user turns off the Power switch.

- ☐ Delete the wire connecting the Power Boolean control to the conditional terminal.
- ☐ Right-click the Loop Condition and select **Stop if True**.



- ☐ Add a Compound Arithmetic function next to the conditional terminal.
  - Right-click the Compound Arithmetic function and select **Change Mode»OR**.
  - Right-click the lower left input terminal of the Compound Arithmetic function and select **Invert**.
  - Wire the Power control to the lower left input terminal of the Compound Arithmetic function.



- ☐ Add an Unbundle By Name function to the While Loop.
- ☐ Wire the conditional terminal as shown in Figure 1.

7. Close the file and handle any errors that may have occurred.



- ☐ Add a Close File function to the right of the While Loop.

- ☐ Add a Simple Error Handler VI to the right of the Close File function.

- ☐ Finish wiring the block diagram as shown in Figure 1.

8. Save the VI.

9. Test the VI.

- ☐ Run the VI.

- ☐ Give the text file a name and a location.

- ☐ Turn the Power switch to Off after the VI has been running for a few samples.

- ☐ Navigate to the text file created and explore it.

10. Close the VI and text file when you have finished.

## End of Exercise

## Notes

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