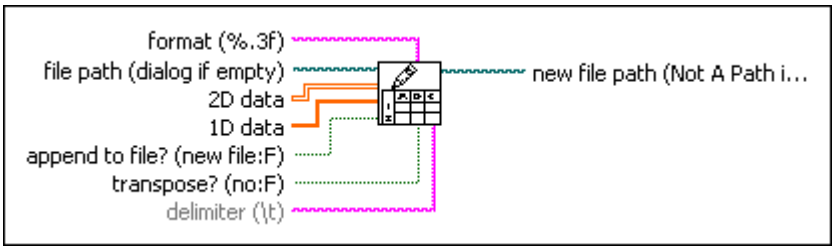
Lab: Write To Spreadsheet File

Purpose: The WRITE TO SPREADSHEET FILE function provides the ability to output data that can be written to spreadsheets such as EXCEL. For this laboratory, the function will be added to a previously written VI to demonstrate the execution.

Background and format for writing a DOUBLE PRECISION variable to an EXCEL compatible format:

The WRITE TO SPREAD SHEET FILE converts a 2D or 1D array of strings, signed integers, or double-precision numbers to a text string and writes the string to a new byte stream file or appends the string to an existing file. The data type you wire to the **2D data** input or **1D data** input determines the polymorphic instance to use. You also can transpose the data. The VI opens or creates the file before writing to it and closes it afterwards. You can use this VI to create a text file readable by most spreadsheet applications.

Double



format specifies how to convert the numbers to characters. If the **format** is `%.3f` (default), the VI creates a string long enough to contain the number, with three digits to the right of the decimal point. If **format** is %d, the VI converts the data to integer form using as many characters as necessary to contain the entire number. Use the format string syntax.

file path is the path name of the file. If **file path** is empty (default) or is `<Not A Path>`, the VI displays a dialog box from which you can select a file. Error 43 occurs if you cancel the dialog box.

2D data contains the data the VI writes to the file if **1D data** is not wired or is empty.

1D data contains the data the VI writes to the file if this input is not empty. The VI converts the 1D array into a 2D array before proceeding. If **transpose?** is FALSE, each call to this VI creates a new line or row in the file.

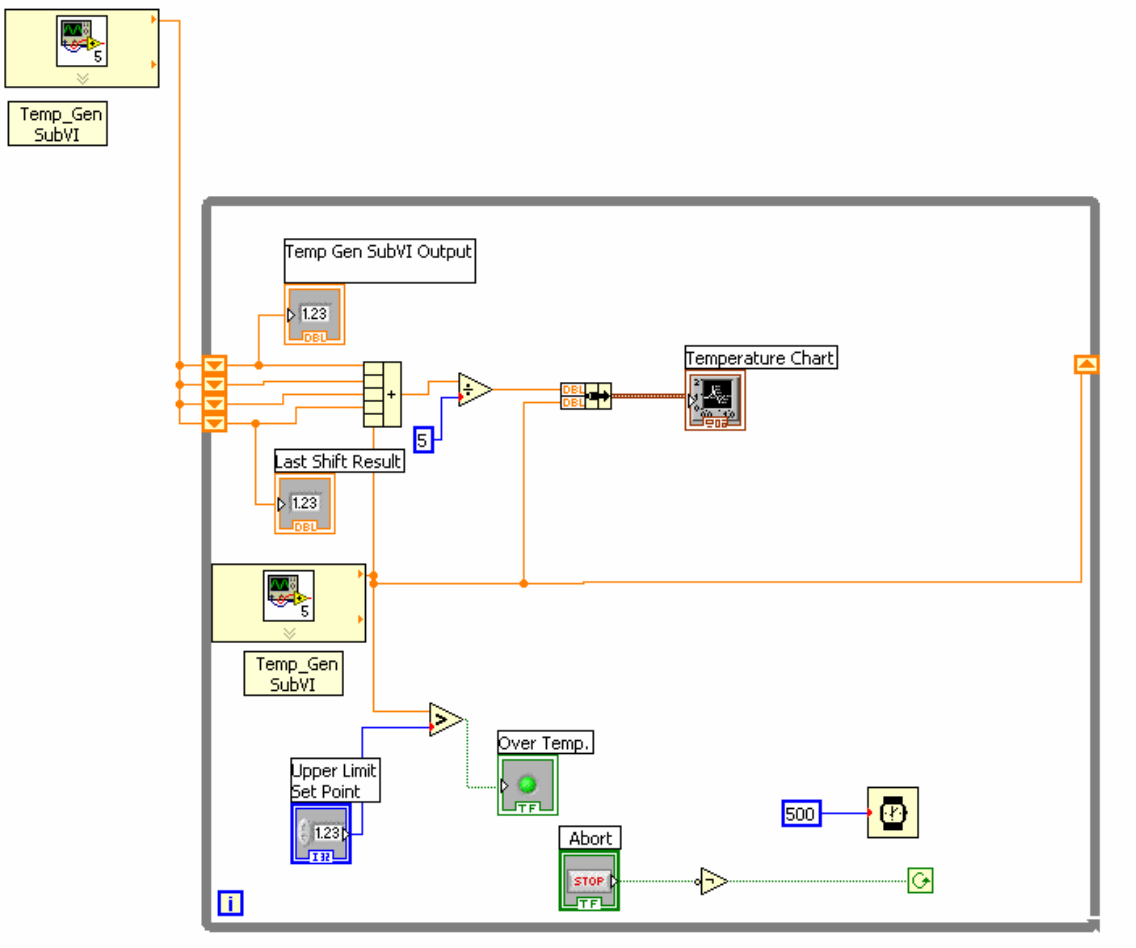
If **append to file?** is TRUE, the VI appends data to an existing file. If **append to file?** is FALSE (default), the VI replaces data in an existing file. If there is no existing file, the VI creates a new file.

If **transpose?** is TRUE, the VI transposes the data after converting it from a string. The default is FALSE.

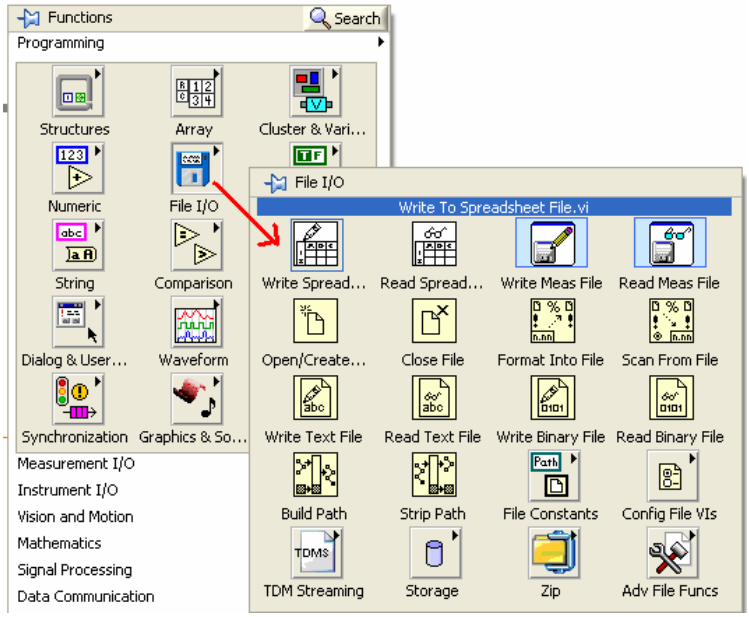
delimiter is the character or string of characters to use to separate fields in the spreadsheet file. For example, a value of `,` specifies a single comma as the delimiter. The default is `\t`, which specifies a single tab character as the delimiter.

new file path returns the path to the file.

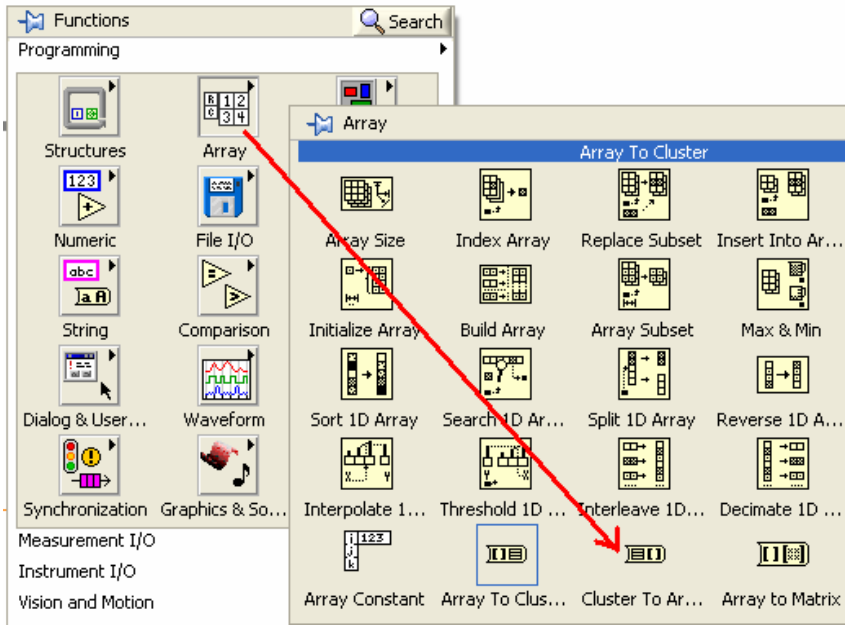
Procedure: Open the previously created VI used to simulate acquiring temperature data (using a random number generator). Remember this laboratory exercise incorporated SHIFT REGISTERS and provided a means to average 5 points then plot both raw and averaged values to a WAVEFORM CHART. An example is shown on the following page.



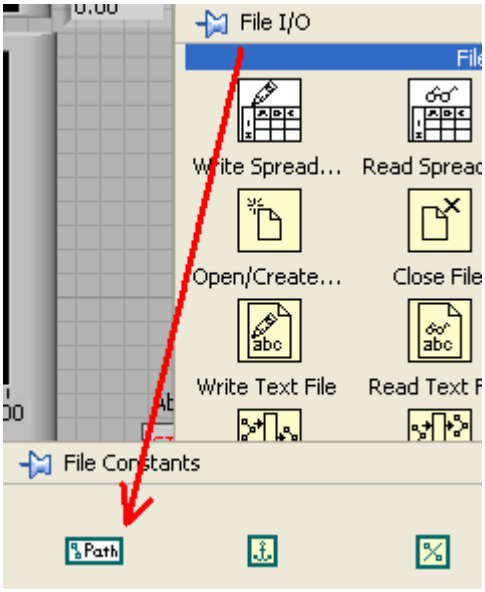
2. Under FUNCTIONS, FILE I/O, select the WRITE TO SPREADSHEET options and place inside the while loop. Note the function location is shown below.



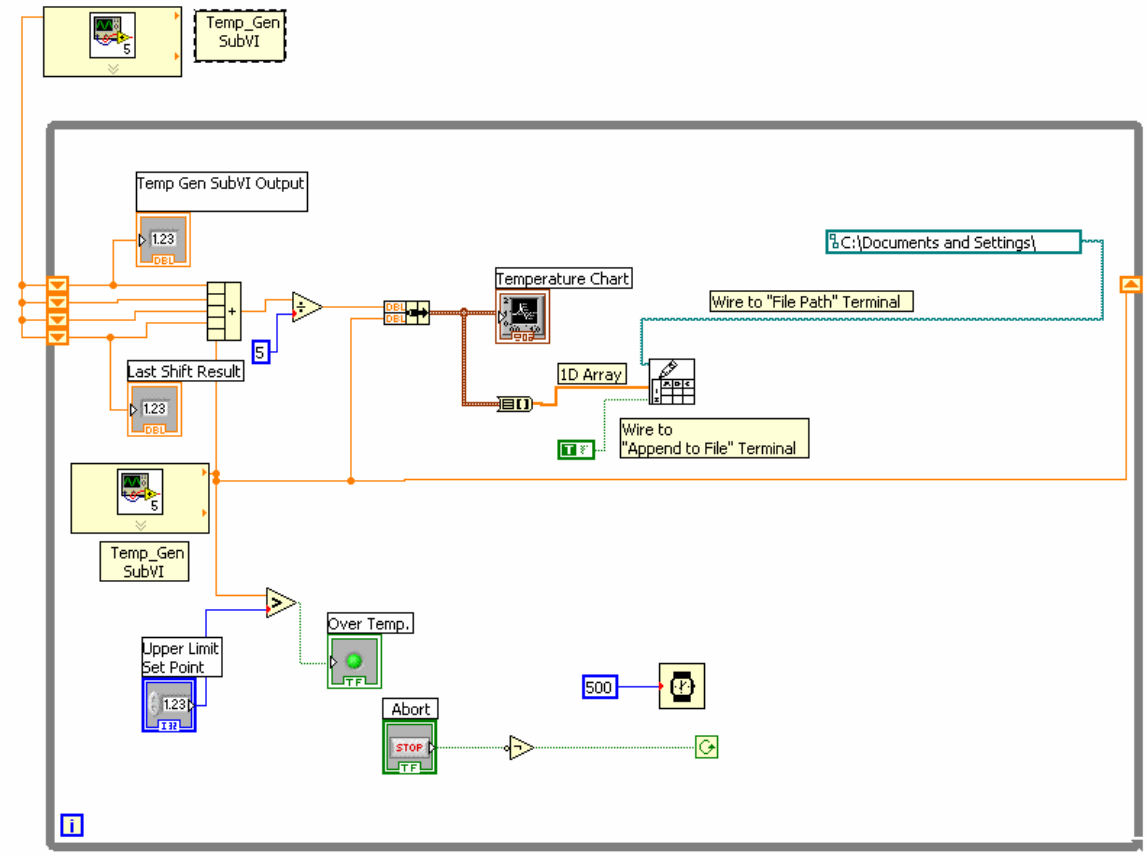
3. From FUNCTIONS, ARRAY, select the CLUSTER TO ARRAY FUNCTION And drag inside the while loop. The location of this function is shown below.



4. Add a BOOLEAN (TRUE) constant inside the while loop.
5. Add a PATH constant inside the while loop (location is shown below).



6. Wire the BLOCK DIAGRAM as shown below:



7. Type in the desired path in the PATH CONSTANT box. Note for this example the PATH BOX contains the following path:

C:\Documents and Settings\ballaaron\My Documents\ET 472_SP07\ LabView7_Temp_Running_Average_with_Overtemp_Control\Tempdata

NOTE: "Tempdata" is the spreadsheet file name to be written to.

8. Run the VI for a few seconds (allow enough time to collect data).
9. Find the file in the folder or path specified, and open with Excel
10. Verify that data is present in the Excel file. Note: Alternately, you can add the .XLS file extension to your file name so that it will be associateD with EXCEL.
11. Write a lab report showing screen captures of your block diagram and Excel file Containing the collected data.

NOTE: THIS COMPLETES ALL OF THE LAB EXERCISES FOR THIS CLASS! CONGRADULATIONS IF YOU ARE FINISHED.