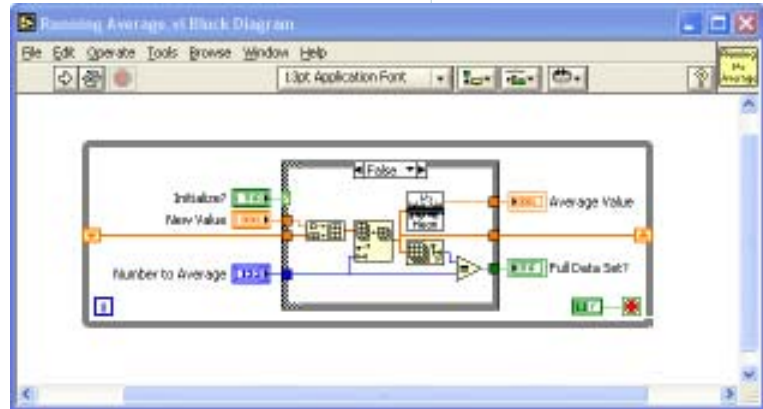


Bloomy VI Corner: Running Average.vi

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Running Average.vi is a virtual instrument (VI) that can be used as a subVI to maintain a running average of any data in your LabVIEW application. It offers some important benefits, including robust performance and clean and simple wiring on the calling VI's diagram. **Running Average.vi** maintains its own array of input values internally on an uninitialized shift register, so there is no need for external shift registers or variables to maintain the data in the calling VI. Its execution is set to reentrant so that each instance of the subVI in your application runs in a separate memory space, and the data on the shift register is not shared between instances. Using this technique, you can have multiple calls to **Running Average.vi** in your application, each keeping a running average on a different value.

Notice this VI is robust, allowing *Initialize* and *Number to Average* to change on the fly and returning a valid average without requiring a full data set. The *Initialize* input is provided so that you may empty the array and reset the running average as often as needed. For example, if you start a new test without exiting your top-level LabVIEW application, you may want to reset the running average. Since the *Number to Average* can change at any time, we can't pre-allocate an array to store the input values for calculating averages. That is why you notice a build array and array subset function. These are used to ensure that the array held in the shift register is the size needed to calculate the average value. If the size of the array is less than the specified *Number to Average*, then **Running Average.vi** computes the average of the existing values and sets *Full Data Set* to False. ↷



Use Running Average.vi to maintain a running average of data in your LabVIEW application.

Download this free VI from www.bloomy.com/resources.

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