

BASICS OF INSTRUMENTATION LABVIEW EXERCISES

As a reference, download the *LabVIEW Fundamentals* manual from the National Instruments website

<http://www.ni.com/pdf/manuals/374029a.pdf>.

Additionally, the best guide is always the LabVIEW help. Try Ctrl+?

PARALLEL LOOPS

Queues. Make two parallel while loops. In one loop generate random double precision numbers in the range 0-1. At each execution display the random number on the front panel and also add the element to a queue. In the second while loop read the last element in the queue. If the element is larger than 0.5, then display a green led on the front panel, otherwise make it red. Execute both while loops once every 500ms.

Hint: find the *Obtain queue* node, open its detailed help, look at the example. You can set the queue length to 1, and add elements with *Lossy enqueue*. To get the last element, use *Preview queue element*. Ignore the way the example vi closes, it generates an error on purpose which is not nice... just press abort for now.

Stop parallel loops. How would you nicely interrupt the execution of parallel loops with only one stop button? There are several ways; first do it with queues. It works well but it looks unnecessarily complicated, right? So find and try at least two simpler solutions.

Hint: Google is your friend.