How to Use Timers Tutorial

Functions -> Programming -> Timing -> Wait

From the Functions palette, select the Programming palette. Under the Programming palette, open the Timing palette. In this palette, you should see several different timing functions, however, for the purposes of this tutorial, we are going to use the Wait function.

Once you select the Wait function, place it inside the structure or frame of reference that you want it to operate in. (Note that placing the Wait function in a loop will make the loop wait a certain period of time during each iteration in the loop.)

The Wait function takes in a constant double value which determines how many milliseconds it waits during the execution of that particular thread.

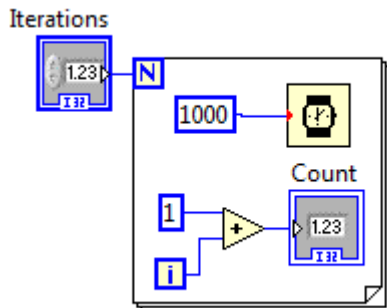For example, in Figure 1 (Counter.VI) we have a Wait function inside a For Loop structure.

Figure 1

In this particular example, the input to the timer is 1000 milliseconds (ms). This means that after each iteration of the For Loop, this thread or process takes 1000 milliseconds to complete. In addition, the wait function only works the way we intend it to when the execution time of all parallel threads is less than the time that we wait (in this case 1000 ms), otherwise having a thread that takes longer than the intended "delay" time defeats the purpose of using the wait function.

For example, if we had two wait functions, each of varying time duration 1000 ms and 2000 ms as in Figure 2. The loop would only wait for 2000 ms not 3000 ms since the two threads are executed in parallel. The key thing here is that we notice that the execution is limited by the slowest thread which in this case takes 2000 ms.
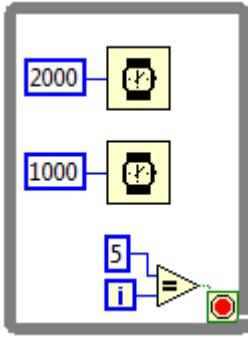
Figure 2

Note that in general, the completion of all parallel threads within a frame is required for execution to continue.