

Parallel Process

Goal

Modify a VI to run two processes in parallel.

Scenario

You are trying to acquire a data point every 25 ms, and update the time display every second. To do this, you start with two subVIs running in the same While Loop. One subVI runs more frequently than the other and has to wait for the slower subVI. Modify the code so that both subVIs run independently of each other.

The starting VI appears as shown in Figures 1 and 2.

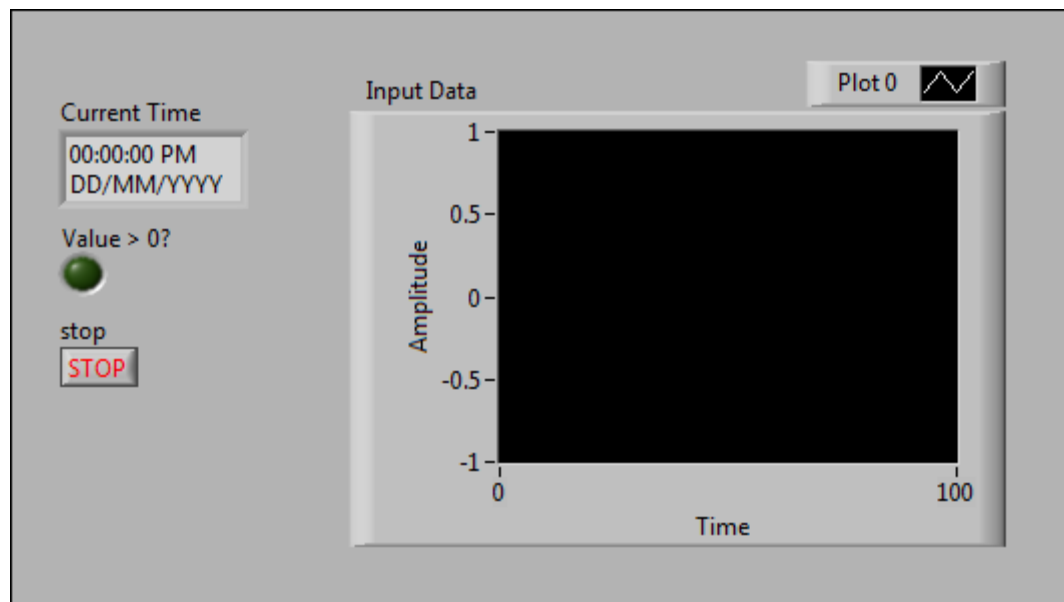


Figure 1. Initial Front Panel

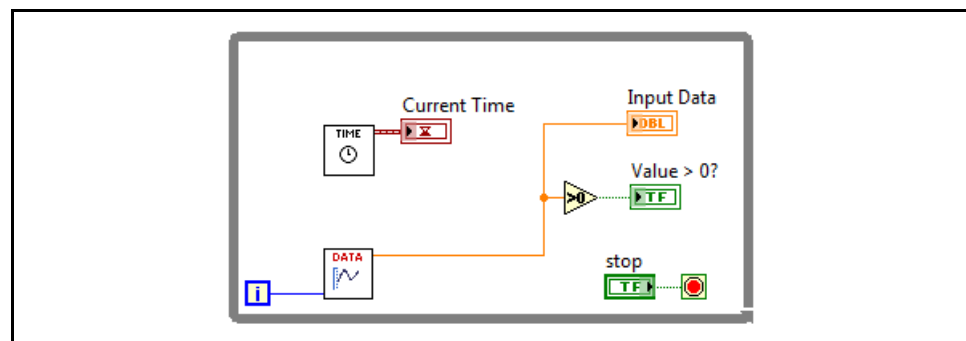


Figure 2. Initial Block Diagram

Implementation

The files that you need to complete this exercise are here:

<NI eLearning>\LV Core 1\Parallelism\Exercise.

1. Open `Two Processes.vi` from the <Exercise> directory.
2. Run the code. Notice that the Current Time and the Input Data indicators are updating every second. The Input Data indicator is not updating every 25ms.
3. Click **STOP** to stop the code.
4. Press <Ctrl-E> to switch to the block diagram.
5. Modify the code to make the two subVIs run in parallel, as shown in Figure 3.
 - ☐ Select the Time of Day subVI and Current Time indicator on the block diagram and drag them below the While Loop.
 - ☐ Add a second While Loop around the Time of Day subVI and Current Time indicator.
 - ☐ Right-click the conditional terminal and select **Create»Control**.
 - ☐ Place a Wait (ms) function inside the second While Loop.
 - ☐ Wire a constant with the value 1000 into the Wait (ms) function.

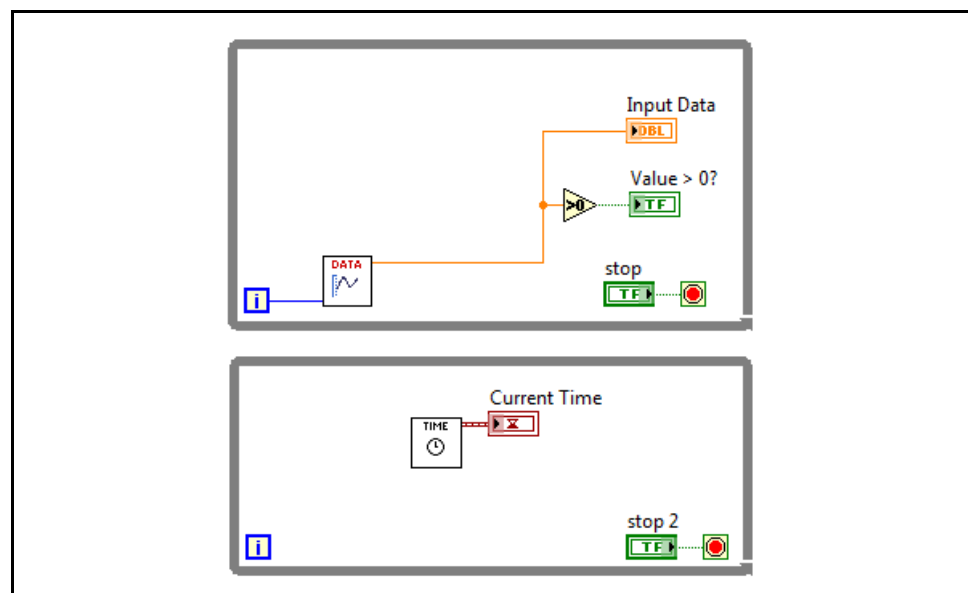


Figure 3. Finished Block Diagram

6. Save the VI.
7. Switch to the front panel and run the VI again. Notice how the Input Data indicator updates independently of the Current Time indicator.

End of Exercise

Notes
