



- 3.3.  $\text{maxRepPulseCount} = (\text{leftTime} + \text{pulseTime1} + \text{rightTime} + \text{pulseTime2}) * 10$  The maximum pulses in one repetition
- 3.4.  $\text{maxPulseCount} = \text{repPulseCount} * \text{nReps}$  The maximum pulses for all repetitions
- 3.5.  $\text{frequency} = 10.0$  The timer frequency
- 3.6.  $\text{outByte} = 0$  The data to be sent to the output ports. Initially '0000'
- 3.7.  $\text{timer.frequency} = \text{frequency}$  The frequency is set to 10 cycles (pulses) per second.
- 3.8.  $\text{timer.start} = \text{true}$  Start the timer
- 3.9. Do  $i = 4$  to  $7$  Write the output data, one bit a time, where  $i$  is the port number
  - 3.9.1.  $\text{WriteBit}(i, \text{outbyte})$  WriteBit is an Advantech method to write bits to a DAQ device
- 3.10.  $\text{timer.start} = \text{false}$  Stop the timer
- 4. User clicks the Reset Button
  - 4.1. Reset all values back to original data

## DIIInterput

Method runs whenever the timer sends a pulse

Input parameters  $\text{leftTime}$ ,  $\text{pauseTime1}$ ,  $\text{rightTime}$ ,  $\text{PauseTime2}$ ,  $\text{repPulseCount}$ ,

Output Parameters  $\text{pulseCount}$ ,  $\text{repCount}$ ,  $\text{outByte}$

- 1.  $\text{pulseCount}++$  Increment the number of pulses for this repetitions
- 2. If  $(\text{pulseCount} > \text{maxRepPulseCount})$   $\text{pulseCount} = 1$  Start a new repetition
- 3. If  $(\text{repCount} \leq \text{leftTime})$   $\text{outByte} = '0001'$  Depending on the  $\text{repCount}$  set the value for  $\text{outByte}$ 
  - Else If  $(\text{repCount} > \text{left})$  AND  $(\text{repCount} \leq (\text{leftTime} + \text{pauseTime} 1))$   $\text{outByte} = '0010'$
  - Else If  $(\text{repCount} > (\text{leftTime} + \text{pauseTime1})$  AND  $(\text{repCount} \leq (\text{leftTime} + \text{pauseTime1} + \text{rightTime}))$   $\text{outByte} = '0100'$
  - Else  $\text{outByte} = '1000'$
- 4.  $\text{repCount}++$  Increment the number of repetitions completed