# LabVIEW Course

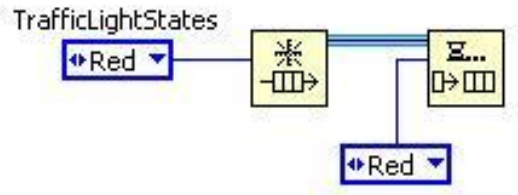
# Exercise 14

## G Boorman 2011

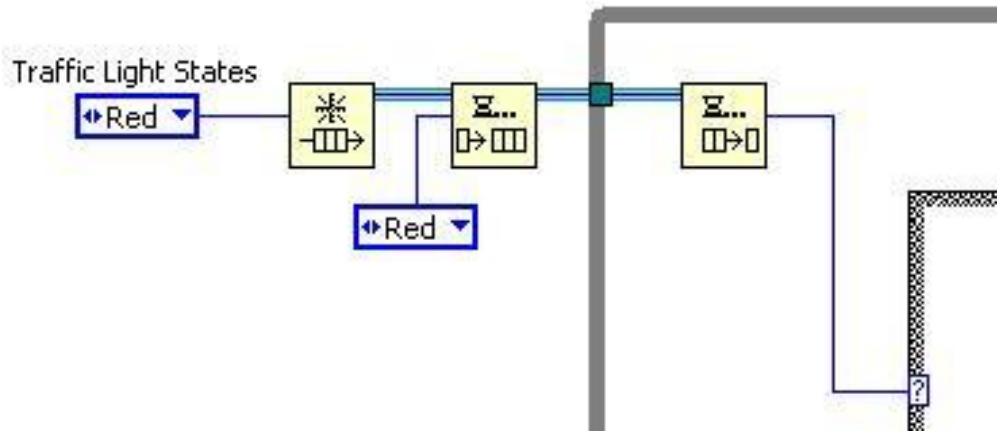
## Exercise 14 – The Queued Message Handler

This exercise takes the *Simple Pedestrian Lights.vi* produced at the end of Exercise 12 and changes the way the 'next state' is decided.

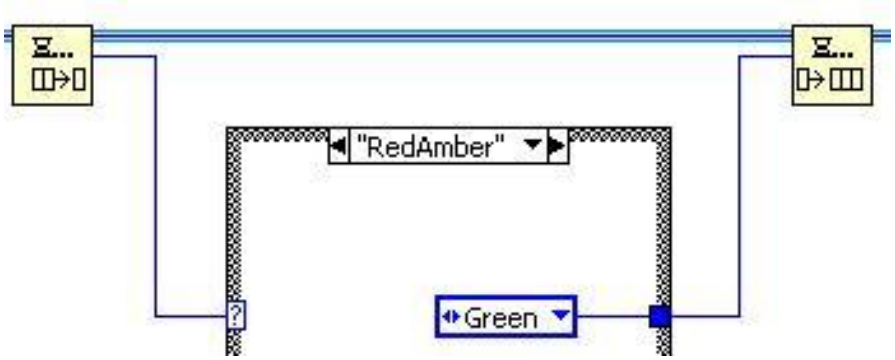
1) Make a copy of *Simple Pedestrian Lights.vi* and name it *Queued Pedestrian Lights.vi* and ensure it's added to the Traffic Lights project.
2) Remove the Shift Register from the While loop, and the wires to/from the old shift register terminals.
3) Add *Obtain Queue* and *Enqueue Element* from the Synchronisation>>Queue Operations palette. Wire the *TrafficLightStates.ctl* to the *Element Data Type* terminal of Obtain Queue, then create a constant wired to the *Element* terminal of Enqueue Element.



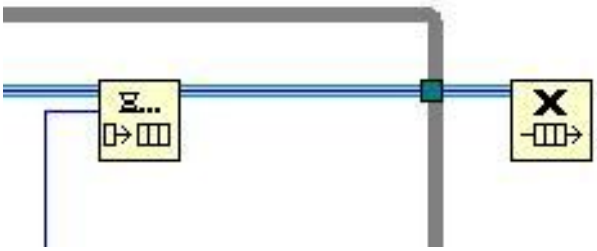

4) Increase the size of the While loop, and add *Dequeue Element* and wire the output from *Dequeue Element* to the Case Selector as shown.




5) Add E*nqueue Element* to the diagram. Wire the Queue Reference and Element as below.




6) Add *Release Queue* to the right of the While loop and wire in the Queue Reference.



7) Check the VI works and save it. What are the advantages of enqueuing the next state rather than using a shift register?

## End of Exercise