**Lab 2 Traffic Light – Use Cases**

It is night time (night mode)

* NS lights blink red once per second
* EW lights blink yellow once per second

NS lights begin red and no cars in left turn lane

* NS lights turn Green for 3 seconds
* NS lights then turn Yellow for 2 seconds
* EW lights stay Red for entire 5 second period

NS lights begin Red and there is a car in left turn lane

* NS lights give Green arrow for 1 second
  + NS lights going straight have Red for 1 second
* NS Green arrow turns off
* NS lights turn Green for 2 seconds
* NS lights turn Yellow for 2 seconds
* EW lights stay Red for entire 5 second period

EW lights begin red and no cars in left turn lane

* EW lights turn Green for 3 seconds
* EW lights then turn Yellow for 2 seconds
* NS lights stay Red for entire 5 second period

EW lights begin Red and there is a car in left turn lane

* NS lights give Green arrow for 1 second
  + NS lights going straight have Red for 1 second
* EW Green arrow turns off
* EW lights turn Green for 2 seconds
* EW lights turn Yellow for 2 seconds
* NS lights stay Red for entire 5 second period

Car wants to turn left when light is Green

* Arrow is red
* Car waits in left turn lane until next cycle
* When arrow turns Green then car turns left

**Hazards**

* If NS is Green or Yellow, EW must be Red
* If EW is Green or Yellow, NS must be Red
* If NS has a Green left turn arrow, traffic going straight must be Red
* If EW has a Green left turn arrow, traffic going straight must be Red