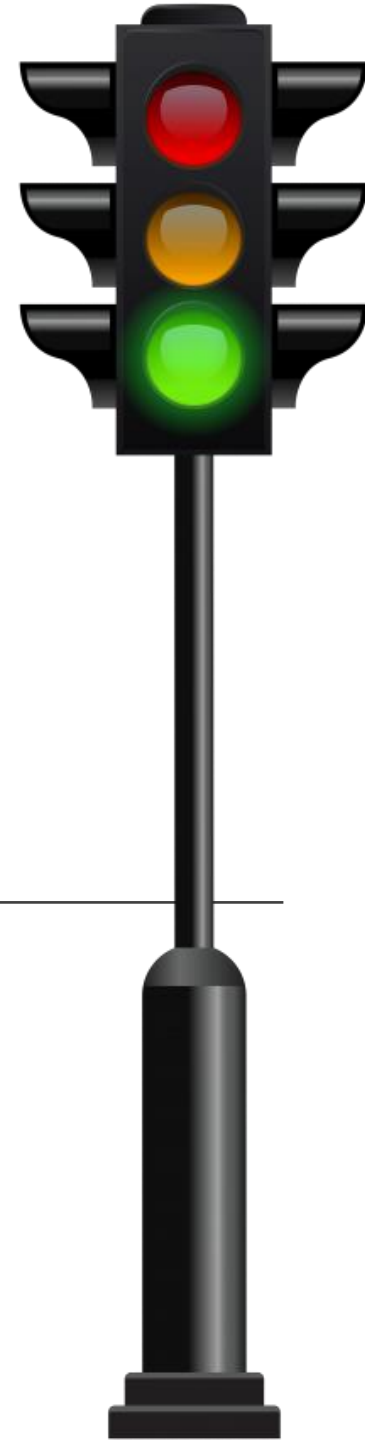


Traffic Light System

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System description

Traffic light system is a software system that runs the normal flow of traffic lights with an addition of pedestrian button that enables pedestrians to have the priority of crossing the road

System design – States table

- Normal flow of traffic lights
- Notice that the transition requires 5 seconds

Index	Previous	Current	Next(5s)	PedCurrent
0	X	Green	Yellow	Red
1	Green	Yellow	Red	Yellow
2	X	Red	Yellow	Green
3	Red	Yellow	Green	Yellow

System design – States table

- Notice that the transition occurs instantly
- Yellow' refers only to the state where next cars led is Red

Index	Current	Next
0	Red	Red
1	Green	Yellow'
2	Yellow	Yellow'

Software implementation

After analyzing the two tables I came to a software implementation as following:

- 1- Create a system that runs the normal flow of traffic light with the required delay
- 2- Make the “When button pressed” as special case where it changes the flow of the states instantly