



# TRAFFIC LIGHT CONTROLLER

## INTRODUCTION

**Traffic light controller** is a sensor which is used to detect if there are any vehicles and change the traffic light to allow the vehicles to cross the highway.

## BLOCK DIAGRAM

The code is designed for Traffic Light Controller using Finite State Machine(FSM), wherein block diagram is shown below. In this clk and rst\_a are two input signal and n\_lights, s\_lights, e\_lights and w\_lights are 3 bit output signal. In output signal, "001" represents Green light, "010" represents Yellow light and "100" represents Red light. On the reset signal, design will enter into north state and start giving output after reset will go low. Design will turn on Green light for eight clock cycles and Yellow light for four clock cycles. Design will start with north, then goes into south, then east and finally into west and by this it will keep going.

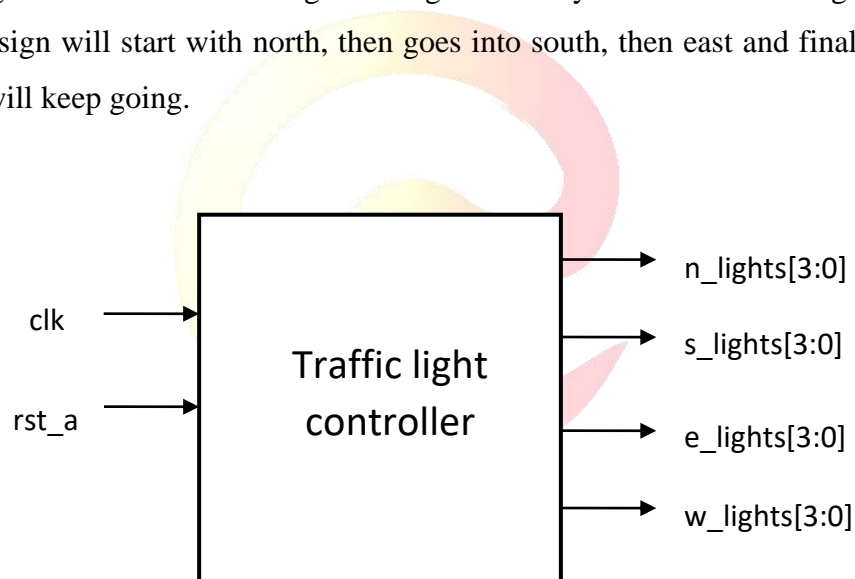


Figure 1:Traffic light controller



shows the signal description of the traffic light controller

SL.No	Name of the pins	Direction	Width	Description
1	n_lights	Output	3	North lights (001=Green, 010=Yellow, 100=Red)
2	s_lights	Output	3	South lights (001=Green, 010=Yellow, 100=Red)
3	e_lights	Output	3	East lights (001=Green, 010=Yellow, 100=Red)
4	w_lights	Output	3	West lights (001=Green, 010=Yellow, 100=Red)
5	Clk	Output	1	Clock signal
6	rst	Output	1	Reset signal