

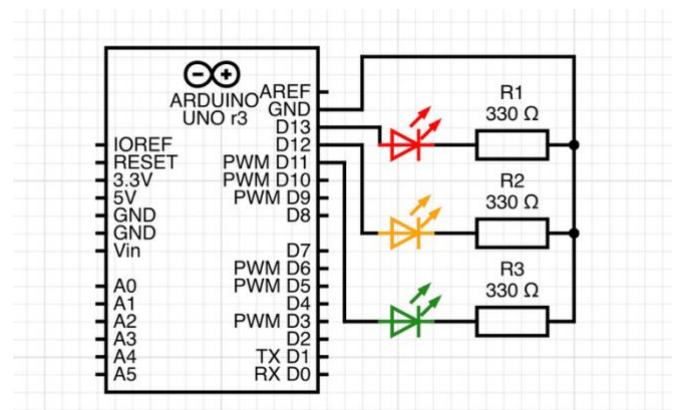
Design and Calculation for the Traffic light circuit

Voltage:

- 1- Pin13,12,11: V=5.0v
- 2- Voltage at Red led= 2.0v (1.8-2.2)
- 3- Voltage at yellow led= 2.1v (2.0-2.4)
- 4- Voltage at green led= 2.2v (2.0-3.0)

Resistant of the series resistor:

- 1- Rred,Ryellow,Rgreen= 330 Ohms



Designed by: www.circuit-diagram.org

Current of each led:

$$1- I_{red} = \frac{V_{pin13} - V_{red}}{R_{red}} = \frac{5 - 2.0}{330} = 0.00909 A \approx 9.1 mA$$

$$2- I_{yellow} = \frac{V_{pin12} - V_{yellow}}{R_{yellow}} = \frac{5 - 2.1}{330} = 0.00879 A \approx 8.8 mA$$

$$3- I_{green} = \frac{V_{pin11} - V_{green}}{R_{green}} = \frac{5 - 2.2}{330} = 0.00848 A \approx 8.5 mA$$