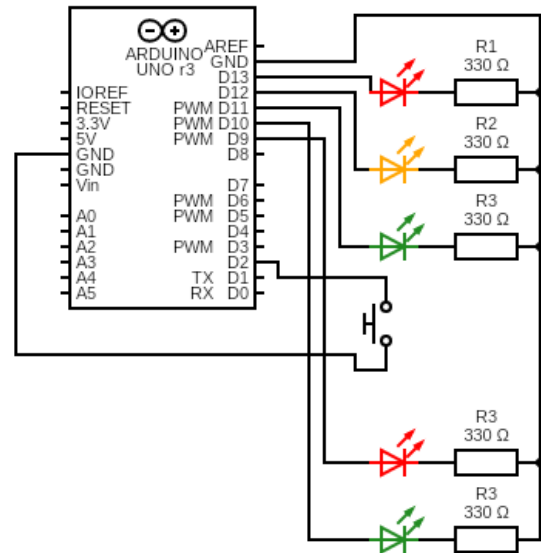


# Design and Calculation for the Traffic light circuit

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](http://www.circuit-diagram.org)

Current of each led:

- 1-  $I_{red} = (V_{pin13} - V_{red}) / R_{red} = (5 - 2.0) / 330 = 0.00909A = 9.09mA$
- 2-  $I_{yellow} = (V_{pin12} - V_{yellow}) / R_{yellow} = (5 - 2.1) / 330 = 0.00879A = 8.79mA$
- 3-  $I_{green} = (V_{pin11} - V_{green}) / R_{green} = (5 - 2.2) / 330 = 0.00848A = 8.48mA$