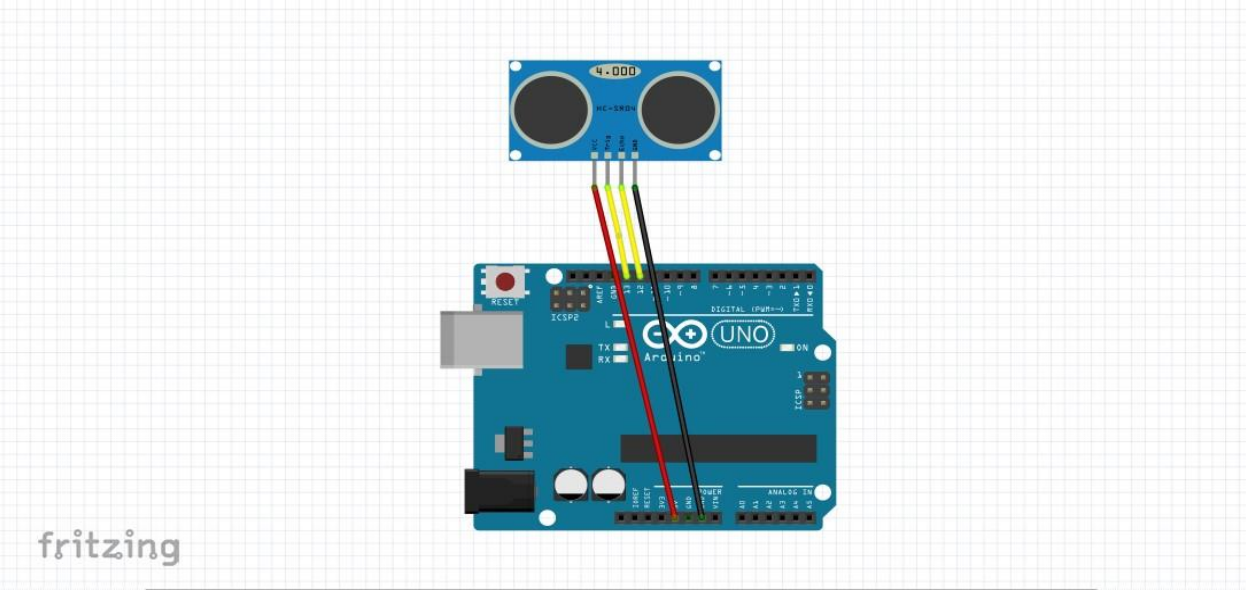
Lab 6b

Arduino Sensing

In this experiment, we will learn to program simple applications using an Ultrasonic sensor attached to the Arduino board.

Components Needed: Arduino UNO and USB cable, Breadboard, HC-SR04 ultrasonic sensor, Buzzer, Red/White LED, connecting jumper wires.

TASK 1 : Connect the circuit as given in Fig. 1: Echo pin connected to pin 12, Trigger pin connected to pin 13, Vcc to 5v and Gnd to gnd. Use the attached code for HC-SR04 and test the obstacle distance using a small scale (Put the obstacle at 1 inches, 2 inches, 3 inches) and read the values to validate. Point the set up towards the ceiling and see what happens (Note down the reading from Serial Monitor).



TASK 2 : Now hook up a LED (replace buzzer with a LED in circuit diagram) and modify your circuit and code as shown in Fig.2.This code should work to get warning cross the LED when something be closer than 0.5 meter.

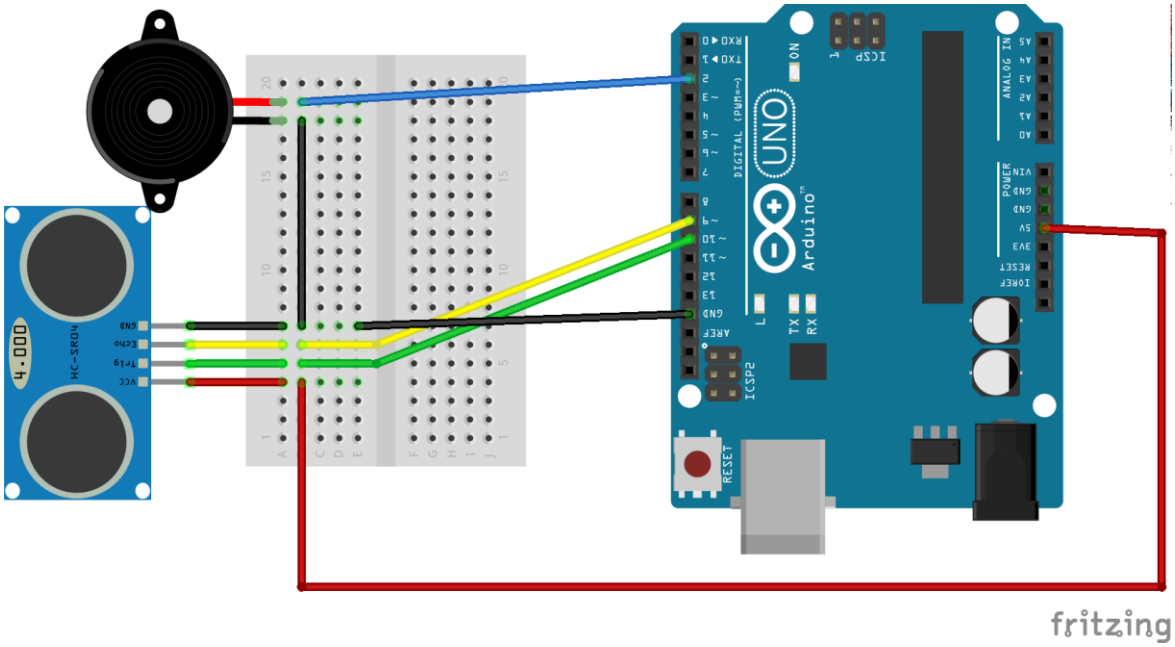


Fig 2