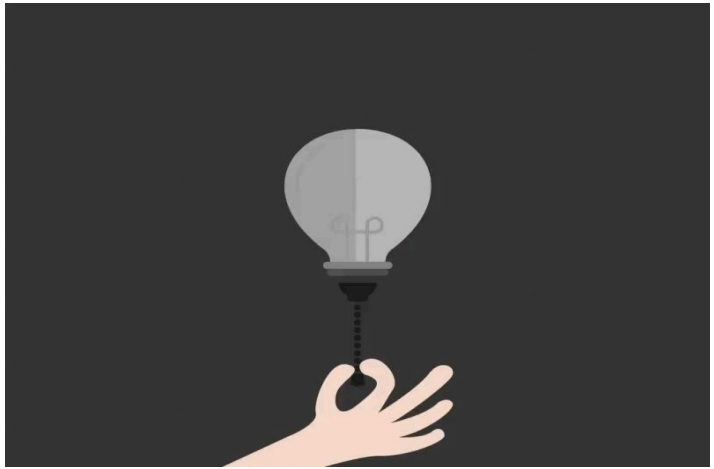
Arduino Sensor Program

Aditya Kesari

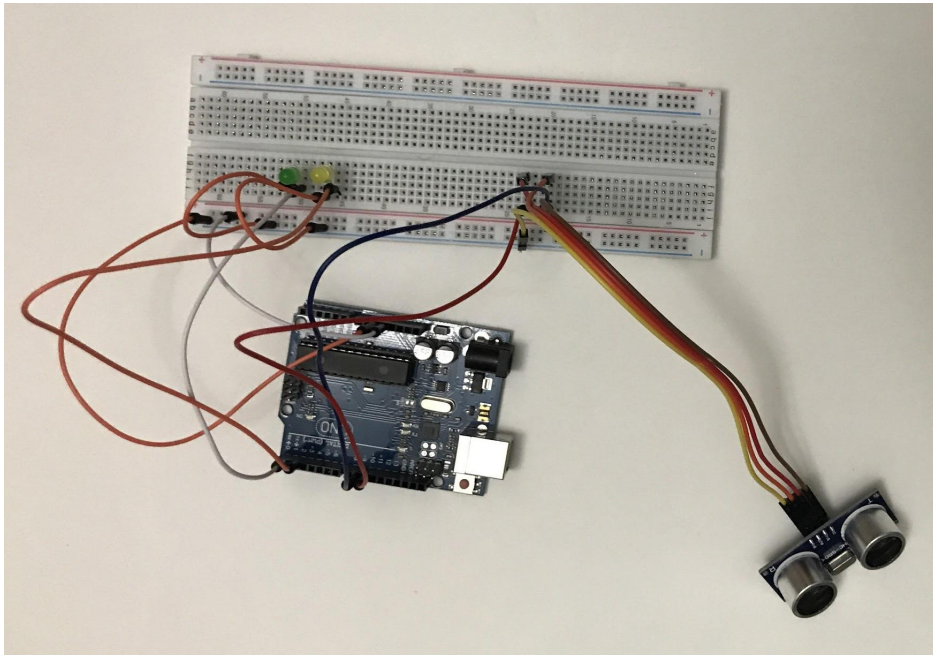
Objective

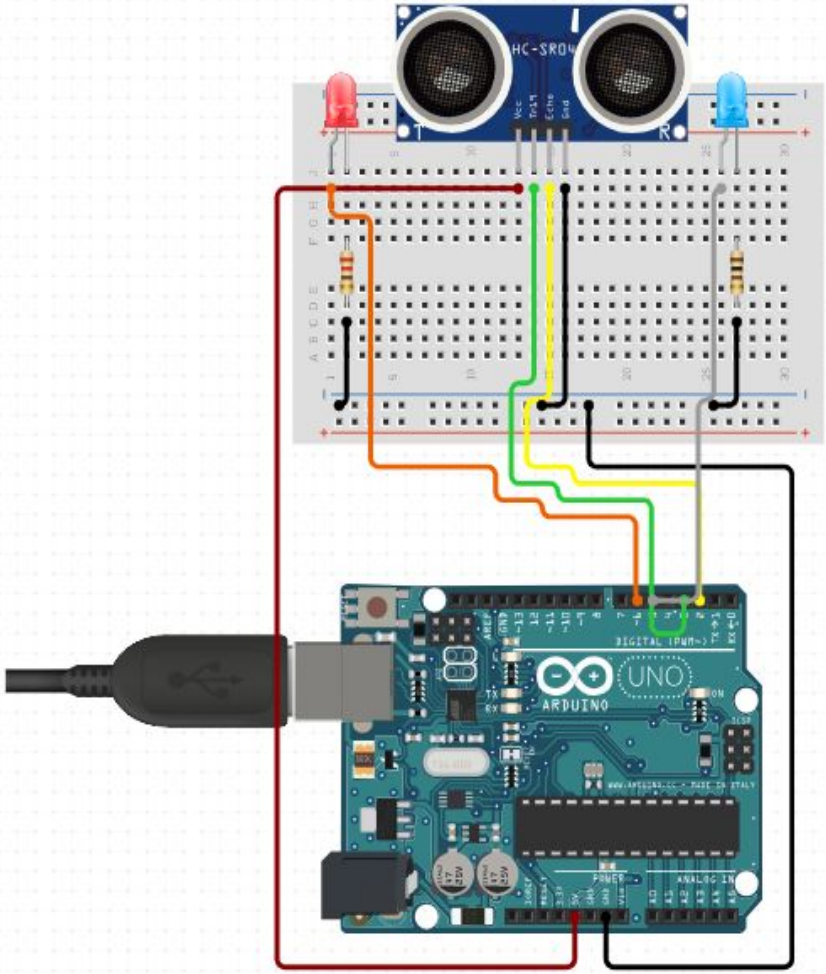
Create a program where a sensor activates if an objective is present at a certain distance.



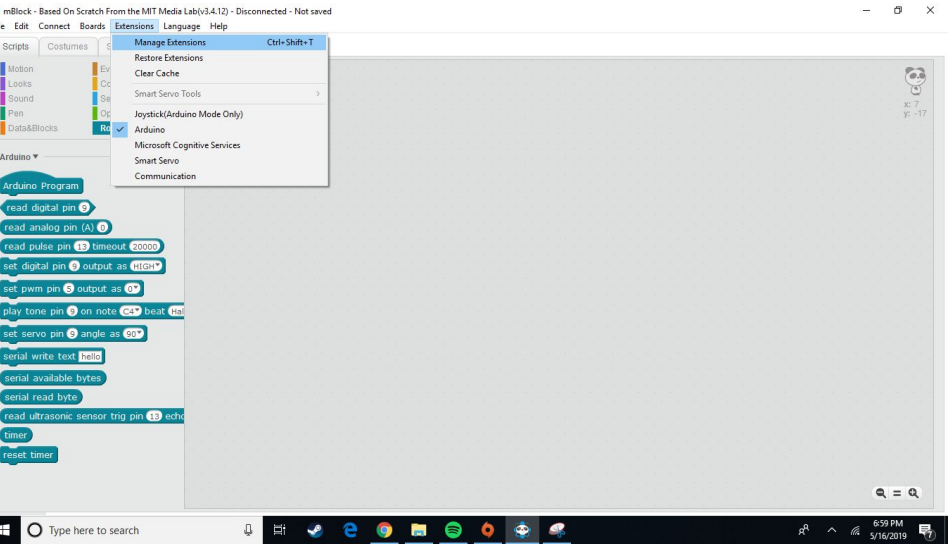
Sensor - Arduino Board

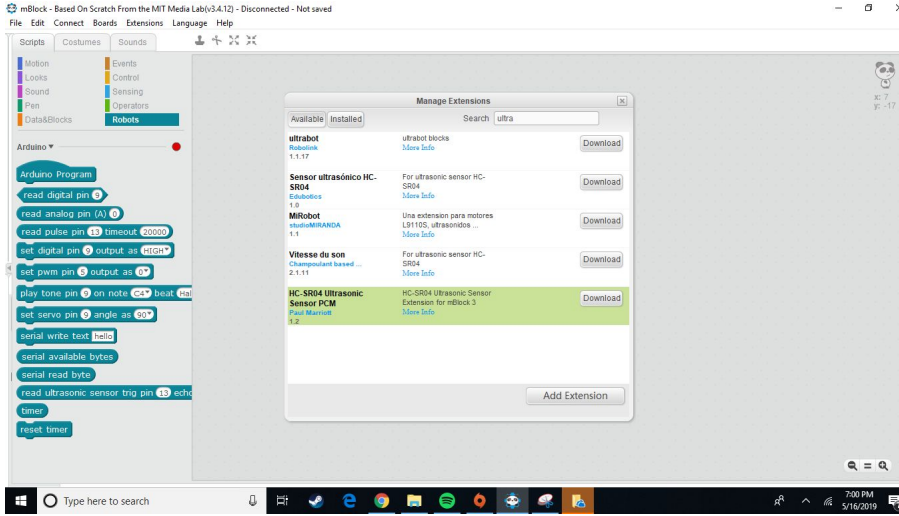
Follow the demonstration carefully!





Add HC-SR04 Extensions in mBot ?

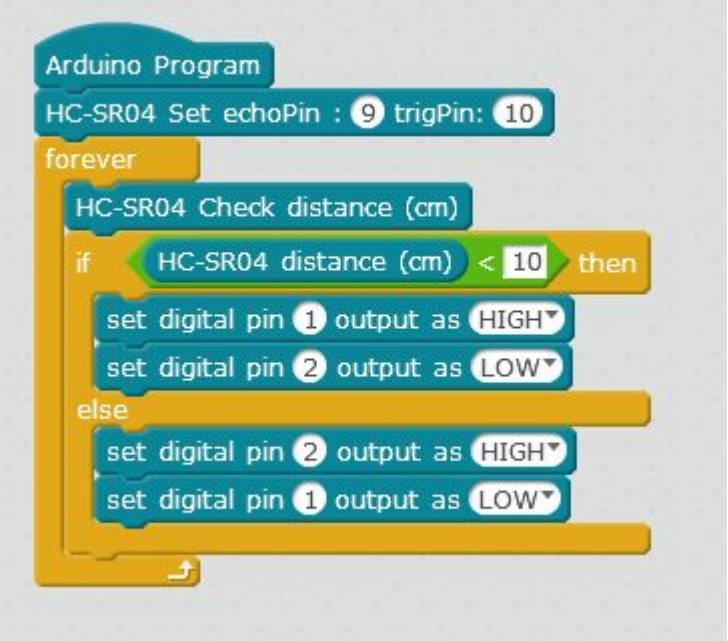




Sensor - Programming

HC-SR04 distance - set how far the sensor notices a change (in cm)

echoPin and trigPin are components of the sensor



HC SR- 04

This is the HC-SR04 ultrasonic ranging sensor. This economical sensor provides 2cm to 400cm of non-contact measurement

- Stable performance, accurate measurement range
- Using IO trigger for at least 10us high level signal
- Automatically send 8 40KHz, and detect whether there is a signal to return

Sensor Dynamics

Velocity of Speed = 343 meter / sec

If you know the time a sound travels , you can find the distance

Let’s say, time t = 0.0006 sec

Velocity = distance / time

Therefore the distance = 343 X 100 X 0.0006 sec = 20cm