**Ultrasonic Sensor – HC-SR04**

**Range** : 2cm to 450cm

**Operating frequency** : 40Hz

**Pins** : Vcc, Trigger, Echo, Ground

**Vcc** : Powers the sensor, with +5V.

**Trigger** : It’s an input pin. This pin has to be kept high for 10µs within which it gets a clock pulse to initialize measurement by sending Ultrasonic wave.

**Echo** : It’s an output pin. This pin goes high for a period of time which will be equal to the time taken for the ultrasonic wave to return back to the sensor from the obstacle.

**Ground** : This pin is connected to the ground of the system.

**Functions used in Code**

**pinmode()** : configures the specified pin to behave either as an input or an output. ‘pin’ is the pin number to set the mode of.

‘mode’ : INPUT, OUTPUT, or INPUT\_PULLUP.

**Syntax** : pinmode(pin, mode)

**digitalWrite()** : if the pin is configured as OUTPUT with pinmode(), its voltage will be 5V for HIGH, 0V for LOW. If the pin is configured as an INPUT, digitalWrite() will enable (HIGH) or disable (LOW) the internal pullup on the input pin.

**Syntax** : digitalWrite(pin, value)

**delayMicroseconds(µs)** : pausing the program for number of microseconds.

**analogWrite()** : Writes an analog value (PWM wave) to a pin. After a call to analogWrite(), the pin will generate a steady rectangular wave of the specified duty cycle until the next call to analogWrite().

**Syntax**  :analogWrite(pin, value)