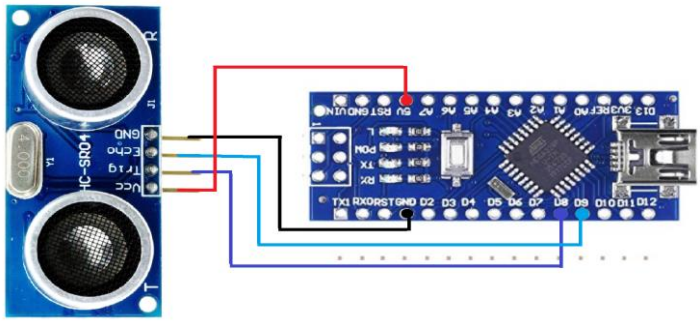
DISTANCE MEASURING MODULE

Distance measuring module is an instrunment which measures the distance of object which is infront if it. It is developed with the two major components Ultrasonic Sensor (Generate ultrasonic sound and generate pulse generated by the travelling sound which have returned after colliding with any objects) and Arduino Nano (kind of programmable chip).Its working mechanism is simple it work on the basis of pulse signal generated by ultrasonic sensor.First of all high signal is given to ultrasonic sensor and after some time low signal is given to ultrasonic sensor,through which one wave of ultrasonic sound is completed. When that ultrasonic sound is collide to the object and returned to the ultrasonic sensor,sensor provide that duration in the form of pulse signal which arduino nano recives and processes that pulse signal to centimeter and gives the output is serial monitor(Screen) and this task is repeated until the arduino gets shut down.Its limitation is upto 5 meters it gives accurate result.

CIRCUIT:



CODE:

```
int trig = 8;      //Declare the value of trig(Sends ultrasonic sound waves) to pin no 8.
int echo = 9;      //Declare the value of echo(Give time that ultrasonic waves took to travel and go back to sensor) to pin no 9.
int time = 0;      //Declare the value of time be zero at first.
int distance = 0;  //Declare the value of distance be zero at first.

void setup()  //Setup Code
{
  Serial.begin(9600);     //establishes serial communication between your Arduino board and device.
  pinMode(trig, OUTPUT);  //Configures the trig pin to behave as an output.
  pinMode(echo, INPUT);   //Configures the echo pin to behave as an input.
}

void loop()  //Main Code
{
  digitalWrite(trig, HIGH);       //Sends High Signal to trig
  delayMicroseconds(10);          //Wait 10 milisecons after sending high signal to trig
  digitalWrite(trig, LOW);        //Sends Low Signal to trig
  time = pulseIn(echo, HIGH);     //Set the value of time to how many pulse signal is generated during high and low signal is sent.
  distance = (time * 0.034) / 2;  // Set distance to half number of product of time and speed of sound.

  Serial.println("Distance = ");
  Serial.println(distance);  //Print distance to the Screen
  delay(800);                //After finishing the task wait 800 milisecond and then again loop will run.
}
```