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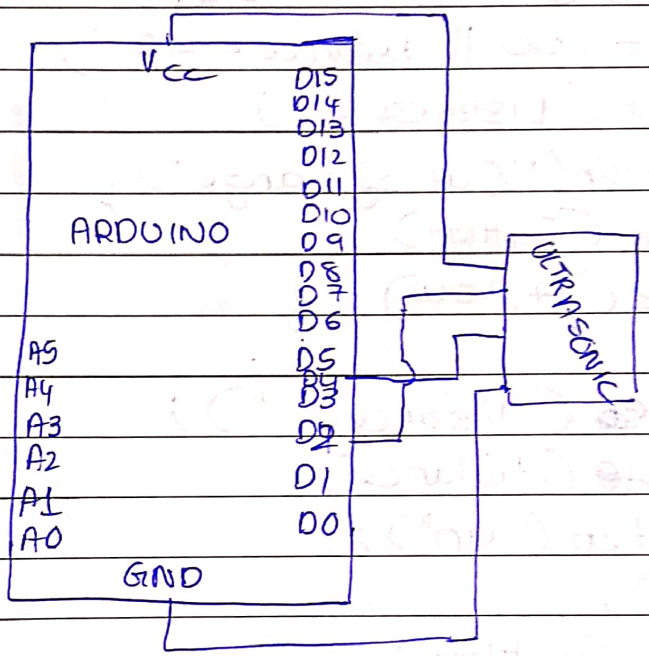
# PROGRAM 9 : ULTRASONIC RANGE FINDER

Aim : Design a system to measure distance between objects

Hardware Required : Arduino UNO, HC-SR04

Circuit Diagram :




Code :

```
int trigPin = 13;
int echoPin = 10;

void setup() {
  Serial.begin(9600);
  pinMode(trigPin, OUTPUT);
  pinMode(4, OUTPUT);
  pinMode(2, OUTPUT);
  pinMode(echoPin, INPUT);
}

void loop() {
  float duration, distance;
```

```
digitalWrite (trigPin, LOW);
delayMicroseconds (2);
digitalWrite (trigPin, HIGH);
delay Microseconds (10);
digitalWrite (trigPin, LOW);
duration =. pulseIn (echoPin, HIGH);
distance = (duration /2) * 0.0344;
if (distance >= 200 || distance <= 2)
{ Serial.print ("Distance = ");
  Serial.println ("Out of range");
  digitalWrite (2, HIGH);
  digitalWrite (4, LOW); }
else {
  Serial.print ("Distance = ");
  Serial.print (distance);
  Serial.println ("cm");
  delay (500);
  digitalWrite (4, HIGH);
  digitalWrite (2, LOW); }

delay (500); }
```

Output : Design a system to measure the distance between objects using ultrasonic device.