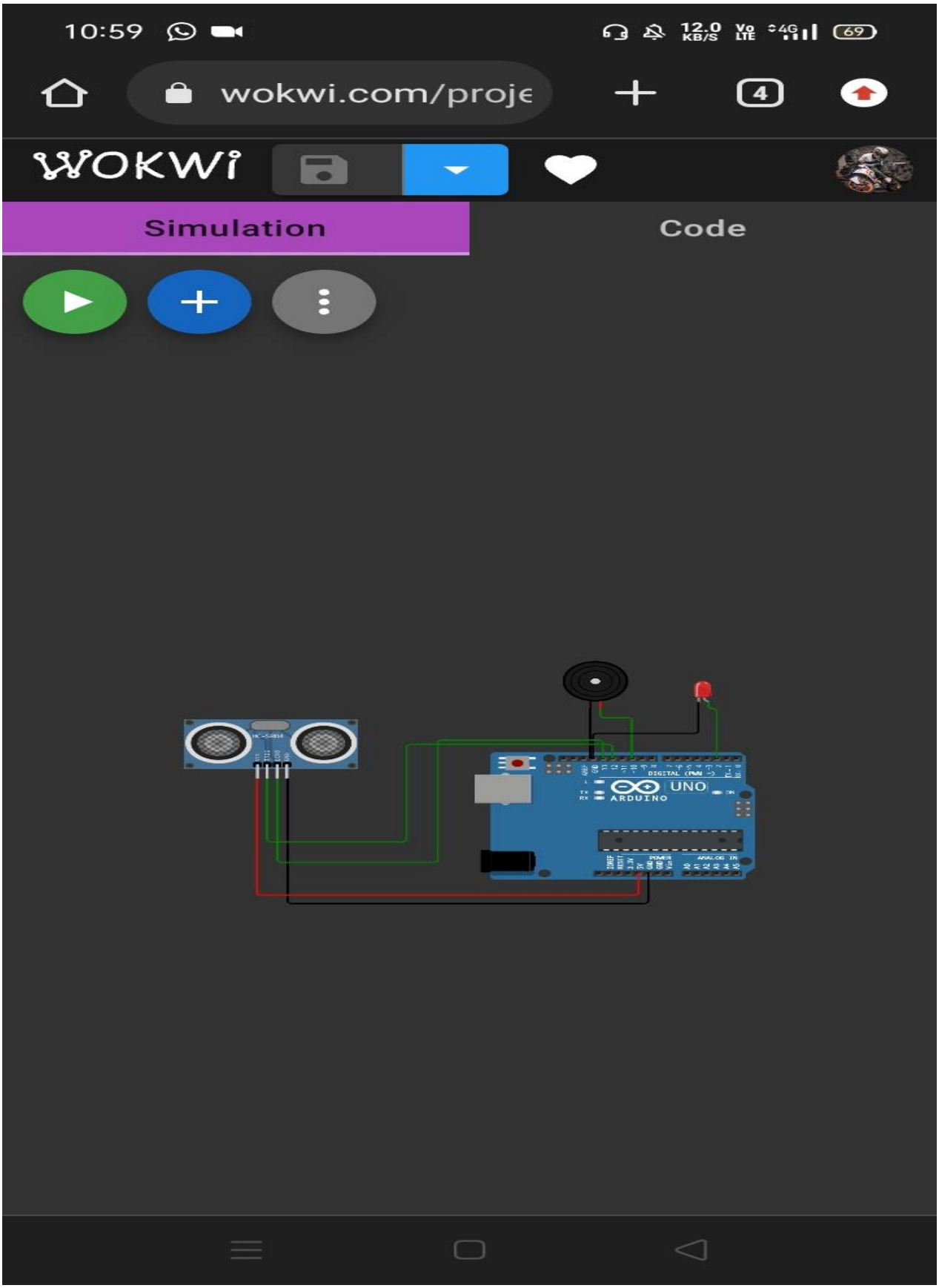
smart home -BOOVANANTHAN

assignment-https://wokwi.com/projects/362725766749540353

```
//define variables
#define trigerPin 12
#define echoPin 13
#define ledPin 2
#define speakerPin 10
#define pitch 262

double duration,distance;

void setup() {
  //setup for sensor
  Serial.begin(9600);
  pinMode(trigerPin,OUTPUT);
  pinMode(echoPin,INPUT);

  //setup for LED
  pinMode(ledPin,OUTPUT);

  //setup for speaker
  pinMode(speakerPin,OUTPUT);

}

void loop() {
  //looping sensor(create sound wave)
  digitalWrite(trigerPin,LOW);
  delayMicroseconds(2);
  digitalWrite(trigerPin,HIGH);
  delayMicroseconds(10);
  digitalWrite(trigerPin,LOW);
  delayMicroseconds(2);

//getduration
duration = pulseIn(echoPin,HIGH);

//caculate distance
```

```
distance = (duration/2) * 0.0343;

//consider maximum width of the door = 200 cm

if(distance<200){
  digitalWrite(ledPin,HIGH);
  tone(speakerPin, pitch);
  delay(300);

  digitalWrite(ledPin, LOW);
  noTone(speakerPin);
  delay(300);
}
else{
  digitalWrite(ledPin,LOW);
  noTone(speakerPin);
}
}
```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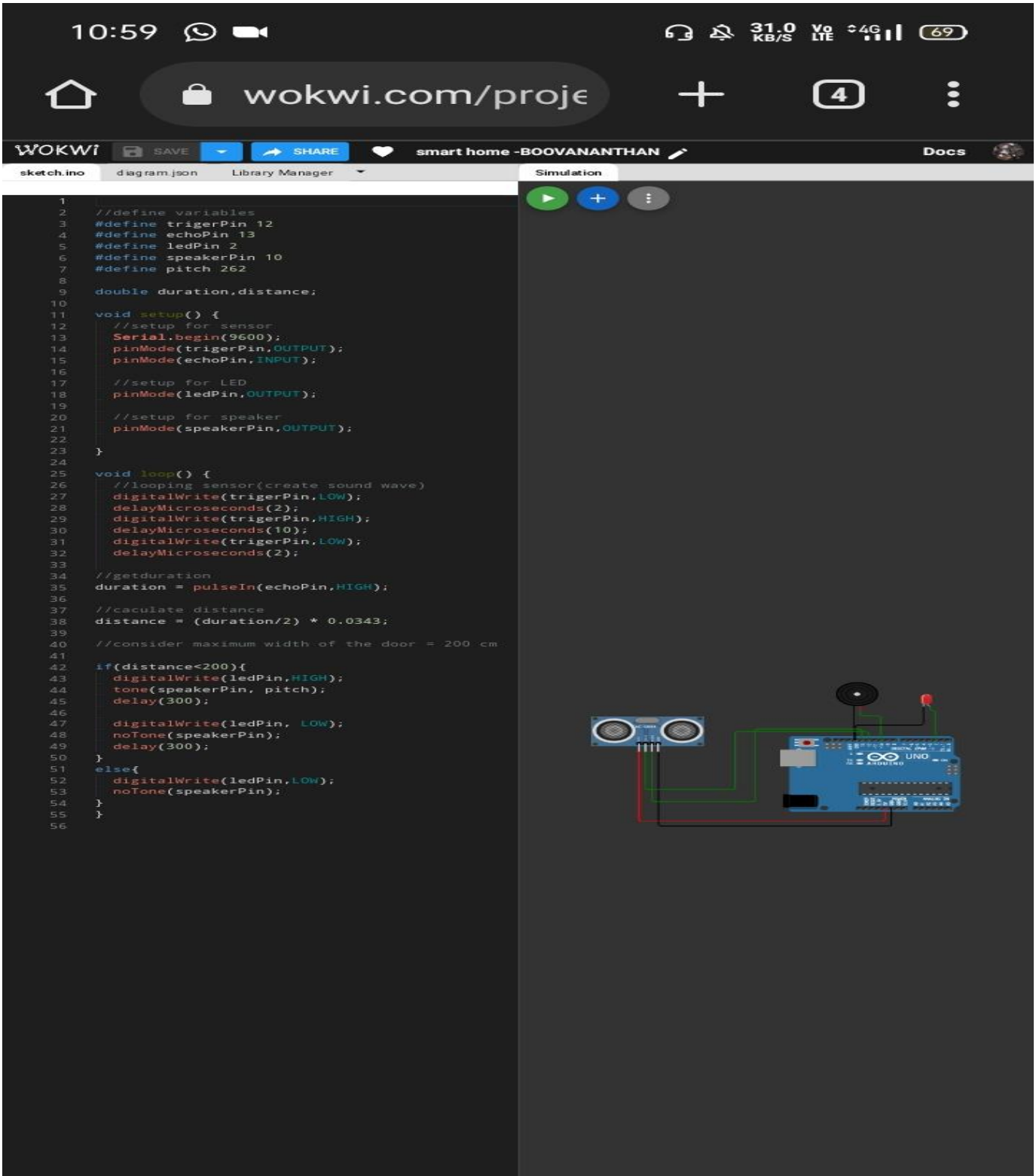
WOKWi
Simulation
Code
UNO
ARDUINO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sketch.ino
diagram.json
Library Manager
Simulation
//define variables
#define trigerPin 12
#define echoPin 13
#define ledPin 2
#define speakerPin 10
#define pitch 262
double duration,distance;
void setup() {
//setup for sensor
Serial.begin(9600);
pinMode(trigerPin,OUTPUT);
pinMode(echoPin,INPUT);
//setup for LED
pinMode(ledPin,OUTPUT);
//setup for speaker
pinMode(speakerPin,OUTPUT);
}
void loop() {
//looping sensor(create sound wave)
digitalWrite(trigerPin,LOW);
delayMicroseconds(2);
digitalWrite(trigerPin,HIGH);
delayMicroseconds(10);
digitalWrite(trigerPin,LOW);
delayMicroseconds(2);
//getduration
duration = pulseIn(echoPin,HIGH);
//caculate distance
distance = (duration/2) * 0.0343;
//consider maximum width of the door = 200 cm
if(distance<200){
digitalWrite(ledPin,HIGH);
tone(speakerPin, pitch);
delay(300);
digitalWrite(ledPin, LOW);
noTone(speakerPin);
delay(300);
}
else{
digitalWrite(ledPin,LOW);
noTone(speakerPin);
}
}