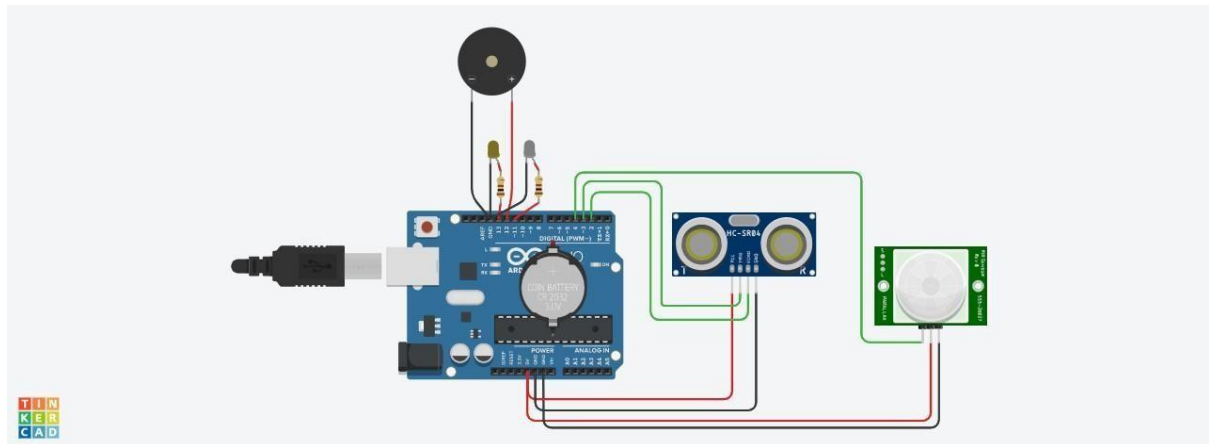


IBM ASSIGNMENT-1 HOME AUTOMATION

CIRCUIT DIAGRAM:



CODE:

```
void setup()
{
  pinMode(11, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
  pinMode(2, INPUT);
  pinMode(3, OUTPUT);
  pinMode(4, INPUT);
  Serial.begin(1000);
}

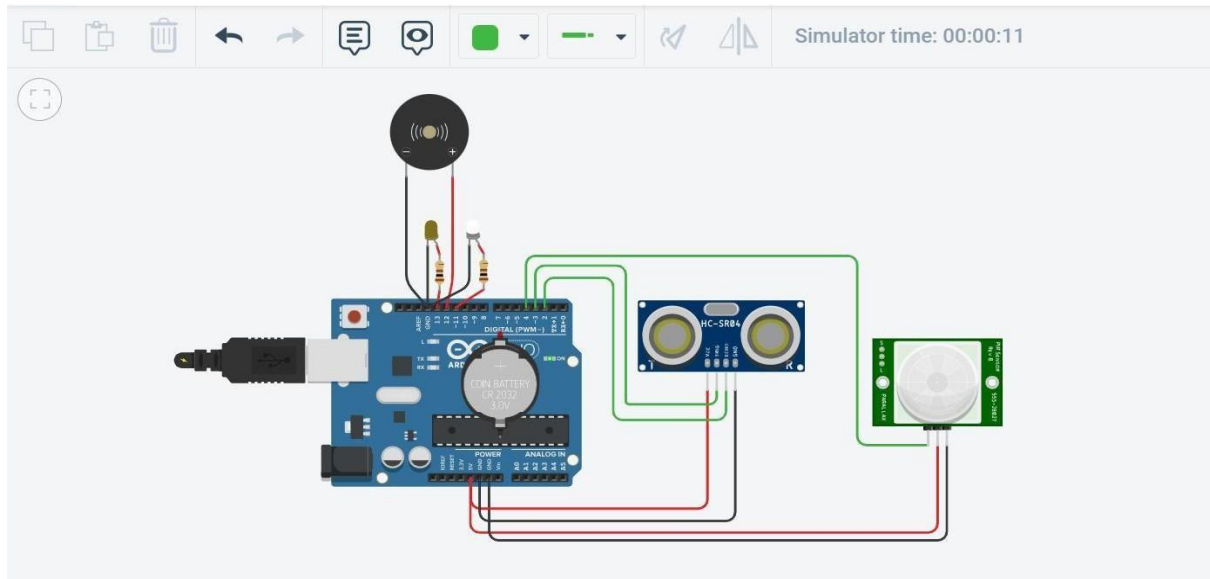
void loop()
{
  int a=digitalRead(4);
  //Reads the motion in the room.
  //-----
  if(a)
  {digitalWrite(11,HIGH);
    //if moment is detected the light will glow for 5 minutes.
    delay(5000); //5 minutes is taken as 5 seconds.
    Serial.println("\n\nmotion in the room,lights is ON");
  }
  else
  {
    digitalWrite(11,LOW);
    //if there is no motion after 5 minutes the light turns off .
    Serial.println("\n\nNo motion,light is OFF");
  }
  //-----
  digitalWrite(3,LOW); //no gen. of pulse of sound
  digitalWrite(3,HIGH); //gen. of pulse of sound
```

```

delayMicroseconds(5);//10ms of sound pulse.
digitalWrite(3,LOW);//ultrasonic sensor is off.
float p=pulseIn(2,HIGH);//receives the reflected signal.
float d=(p*0.0343)/2;//calculate distance of the water level.;
if(d<50)
{
tone(12,500);//the water tank is full is indicated
//using a buzzer.
Serial.println("\n\nThe Water Tank is full");
}
else if (d>250)
{
noTone(12);
digitalWrite(13,HIGH);//if the water tank is empty,yellow
//light gets on indicating tank is empty.Serial.println("\n\nThe Water Tank is empty");
}
else
{
noTone(12);
digitalWrite(13,LOW);//the water level is normal.
Serial.println("\n\nThere is Water in the water Tank");
}
}
}

```

OUTPUT:



TEAM LEADER: Gowtham.GV

TEAM MEMBERS: Barathraj.T, Ahileshwaran.S, Ganesan.P