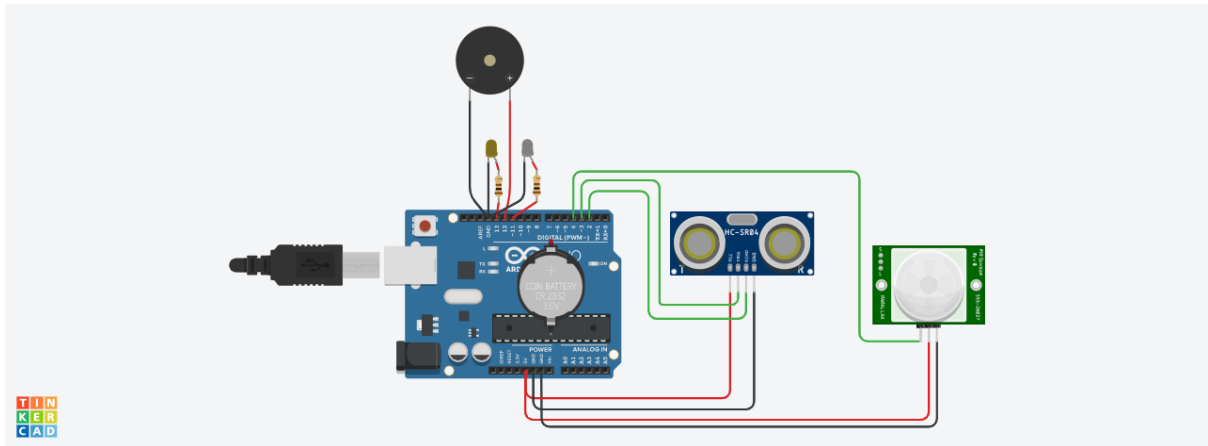


IBM ASSIGNMENT-1 HOME AUTOMATION

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(10);//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<10)
{
    tone(12,200);//the water tank is full is indicated
    //using a buzzer.
    Serial.println("\n\nThe Water Tank is full");
}
else if (d>250)
{

```

```

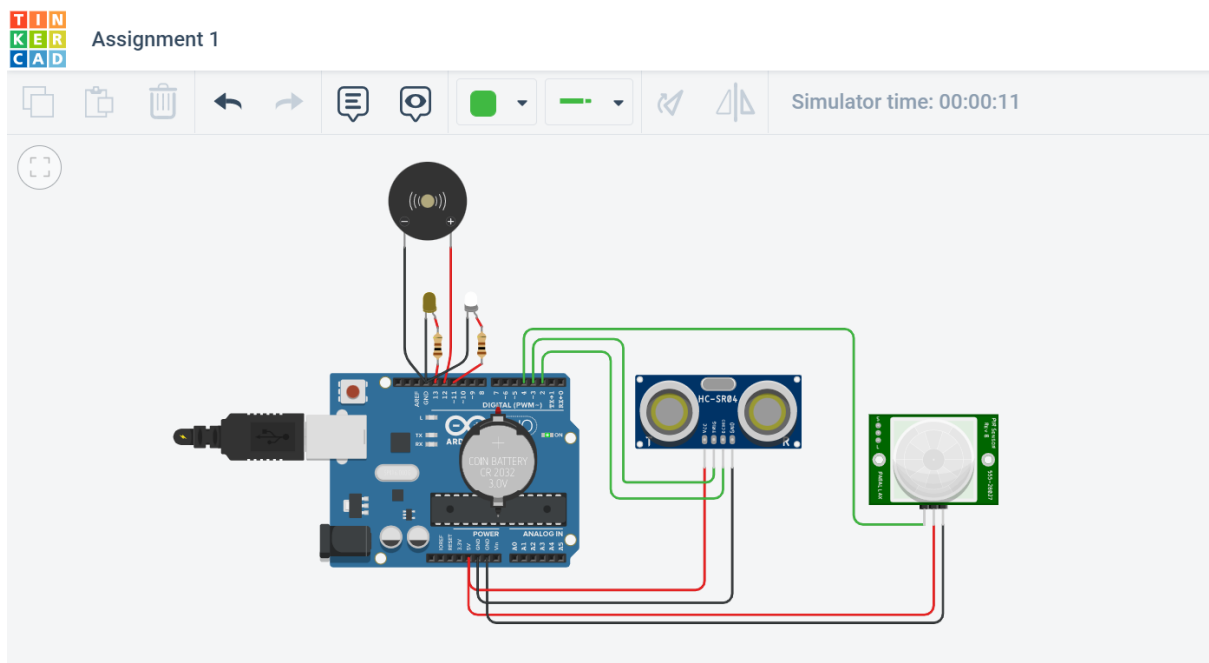
digitalWrite(13,HIGH);//if the water tank is empty,yellow
//light gets on indicating tank is empty.
Serial.println("\n\nThe Water Tank is empty");
}
else
{
digitalWrite(13,LOW);//the water level is normal.
Serial.println("\n\nThere is Water in the water Tank");
}
}

```

TINKERCAD LINK:

<https://www.tinkercad.com/things/fRqDDMudAqp-assignment-1/editel?sharecode=9EKlMaKBkcvSSyoZORscH5ohvNBUAFUD37NUus87H-c>

OUTPUT:



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