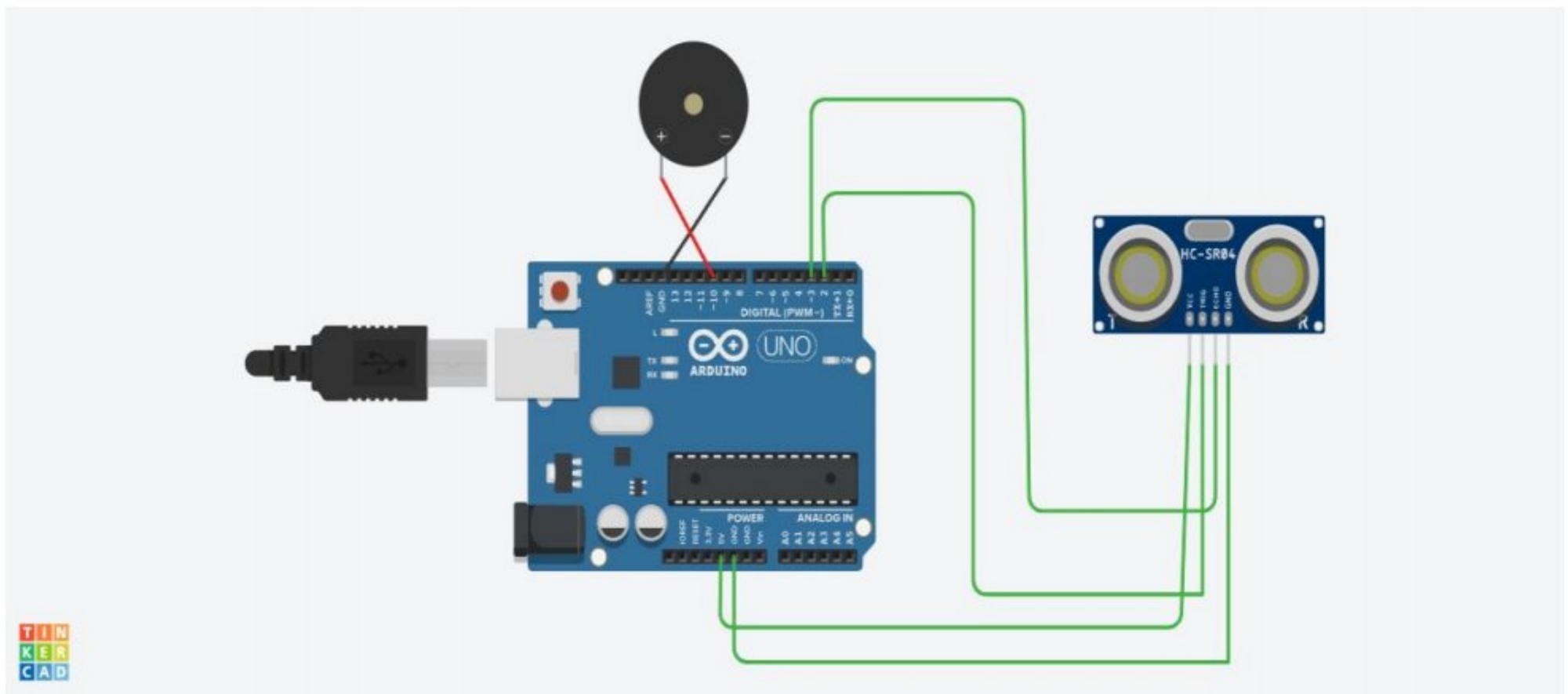
ASSIGNMENT-1

SMART HOME APPLIANCE FOR DOOR BUZZER

Components:

1. Ardiuno Uno R3
2. Ultrasonic distance sensor
3. piezo

Circuit Diagram:



Ultrasonic Sensor HC-SR04 is used here to detect the presence of any person at the door. The sensor module consists of ultrasonic transmitter, receiver and the control circuit. Ultrasonic Sensor consists of two circular eyes out of which one is used to transmit the ultrasonic wave and the other to receive it.

PROGRAM:

```
int trigger_pin = 2;

int echo_pin = 3;

int buzzer_pin = 10;

int time;

int distance;

void setup()

{

      Serial.begin (9600);

      pinMode (trigger_pin, OUTPUT);

      pinMode (echo_pin, INPUT);

      pinMode (buzzer_pin, OUTPUT);

}

void loop()

{

  digitalWrite (trigger_pin, HIGH);

  delayMicroseconds (10);

  digitalWrite (trigger_pin, LOW);

  time = pulseIn (echo_pin, HIGH);

  distance = (time * 0.034) / 2;


if (distance <= 10)

    {

    Serial.println (" Door Open ");

Serial.print (" Distance= ");

Serial.println (distance);

digitalWrite (buzzer_pin, HIGH);

delay (500);

}
```

```
else {
    Serial.println (" Door closed ");
    Serial.print (" Distance= ");
    Serial.println (distance);
    digitalWrite (buzzer_pin, LOW);
    delay (500);
        }
}
```