**Microprocessor and Computer Architecture Laboratory**

**UE19CS256**

**4th Semester, Academic Year 2020-21**

Date:29/03/2021

| Name: B.Pravena | SRN: PES2UG19CS076 | Section: B |
|---|---|---|

Week#____8_____ Program Number: ____1__

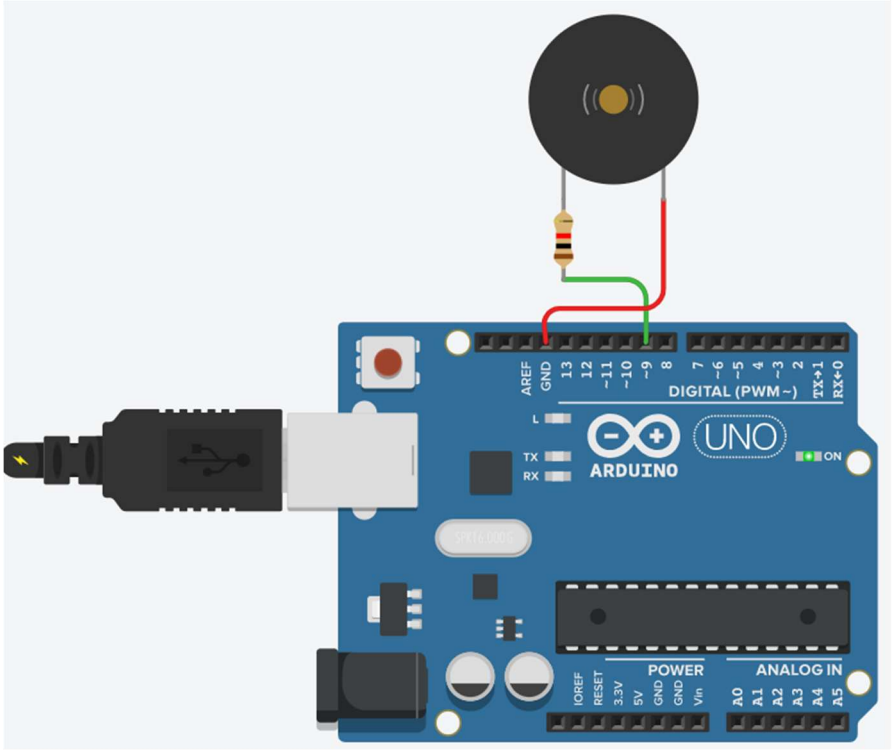
## 1. Implement a Buzzer with Arduino Simulation in Tinkercad

Arduino Code -:

Text

```
1  const int buzzerPin = 9;
2  void setup()
3  {
4      pinMode(buzzerPin, OUTPUT);
5  }
6  void loop()
7  {
8    tone(buzzerPin, 50);
9    delay(50);
10   noTone(buzzerPin);
11   delay(100);
12 }
```

Output Screen Shot -:

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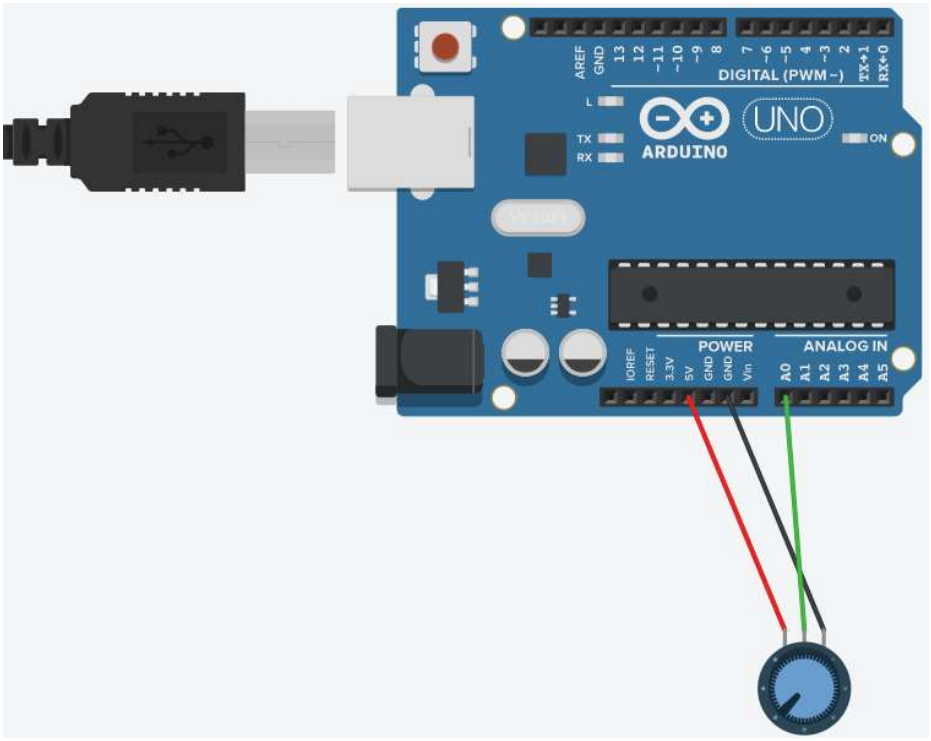
Week#____8_____ Program Number: ____2__

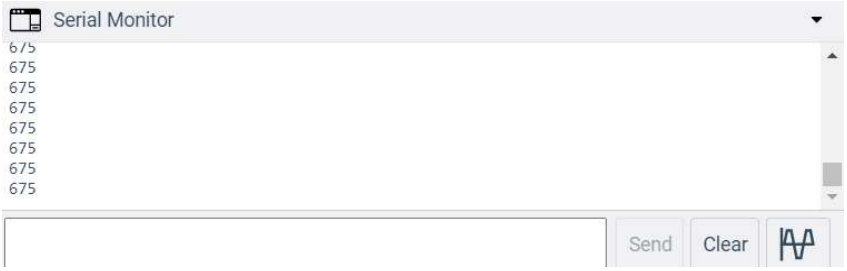
**Implement a Tinkercad simulation that will read the value of a potentiometer and display it in serial monitor.**

Arduino Code -:

```
int potentiometer = 0;
void setup()
{
  pinMode(A0, INPUT);
  Serial.begin(9600);
}
void loop()
{
  potentiometer=analogRead(A0);
  Serial.println(potentiometer);
  delay(10);
}
```

Output Screen Shot -:



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Week#____8_____ Program Number: ____3__

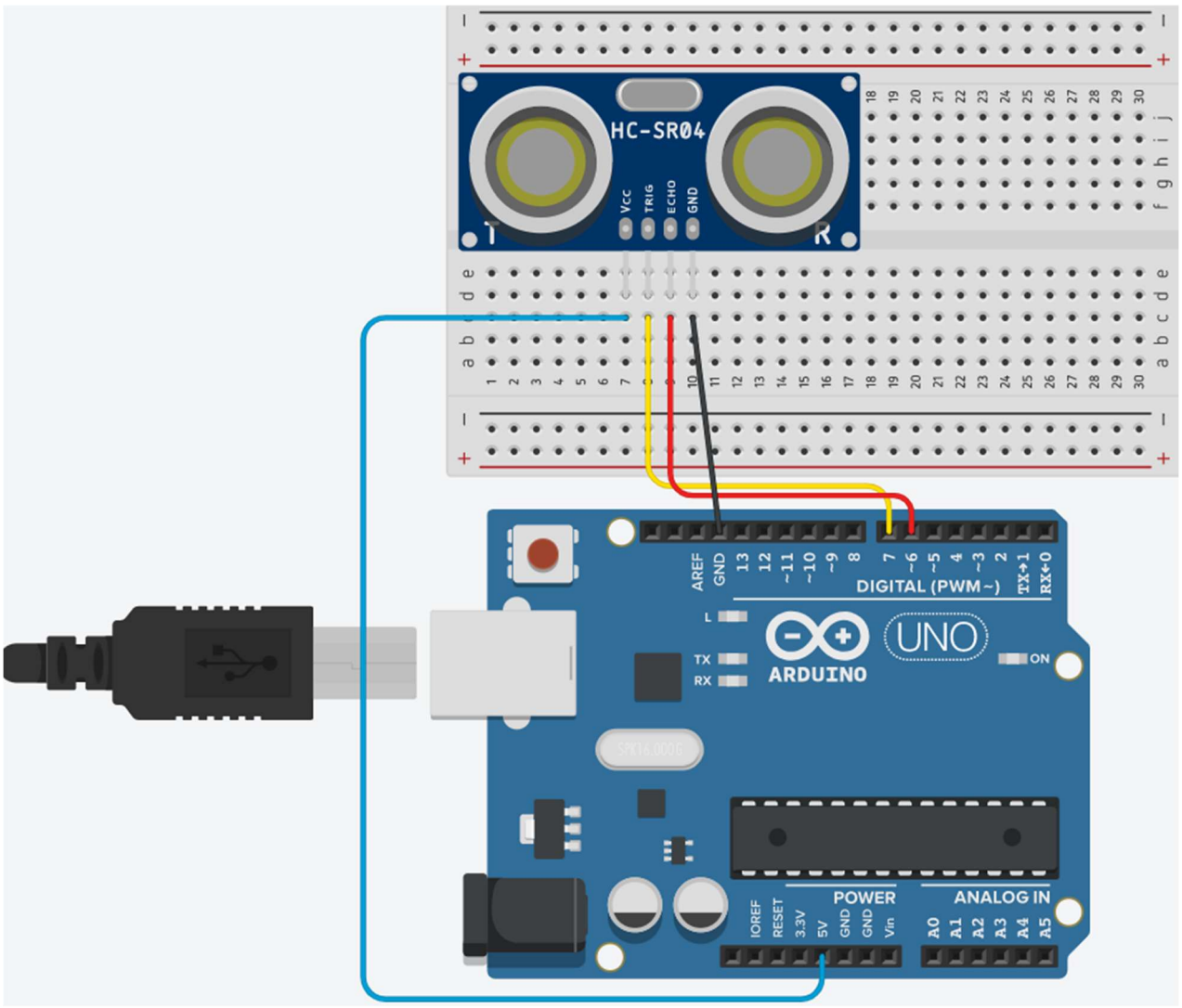
**Implement a Tinkercad simulation to measure a distance with the HC-SR04 ultrasonic sensor and show the result on the serial monitor.**

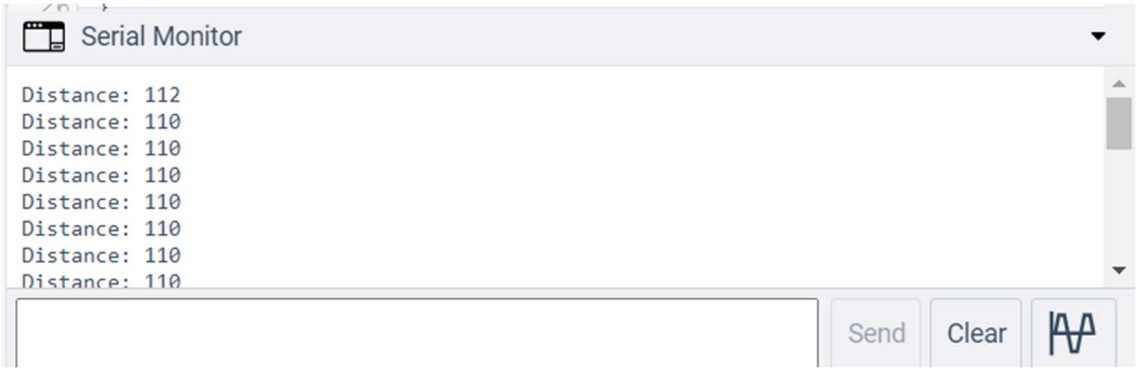
Arduino Code -:

Text

```
const int trigPin=7;
const int echoPin=6;
long duration;
long distance;

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

void loop()
{
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  duration=pulseIn(echoPin,HIGH);
  distance=duration*0.034/2;

  Serial.print("Distance: ");
  Serial.println(distance);
}
```

Output Screen Shot -:



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Week#____8_____ Program Number: ___4__

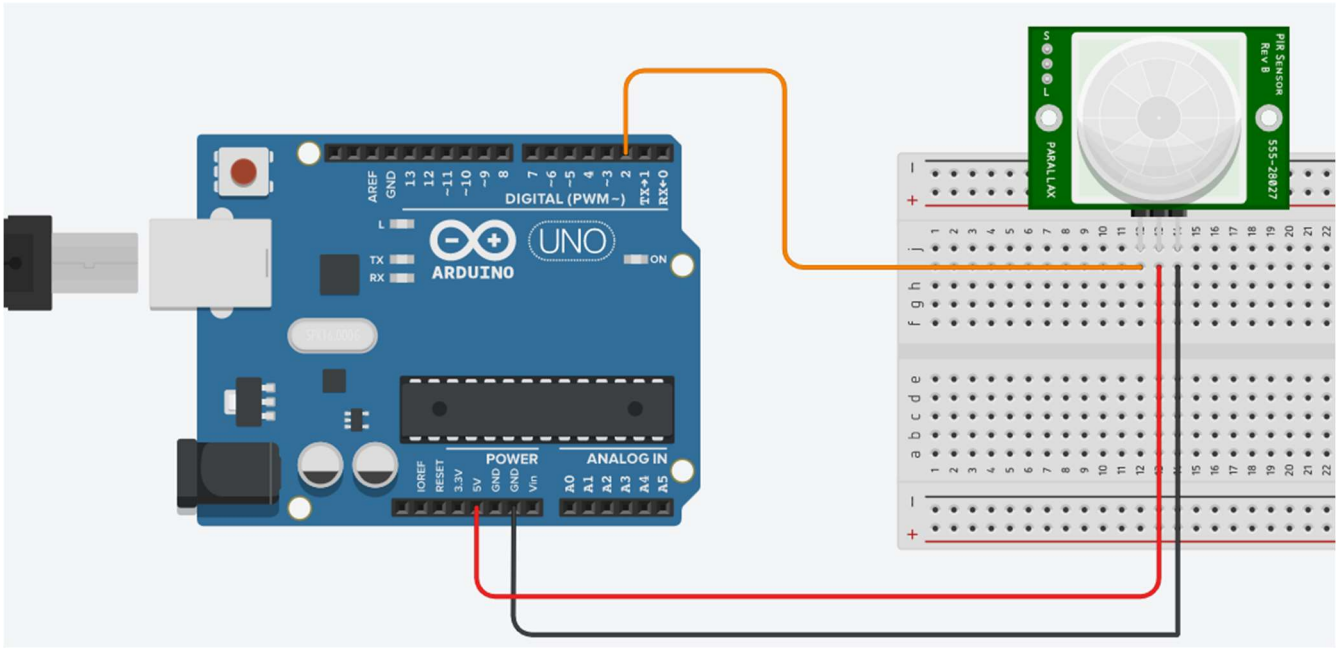
**Implement a Tinkercad simulation to sense movement in a room with a PIR motion sensor and Arduino's digital input.**

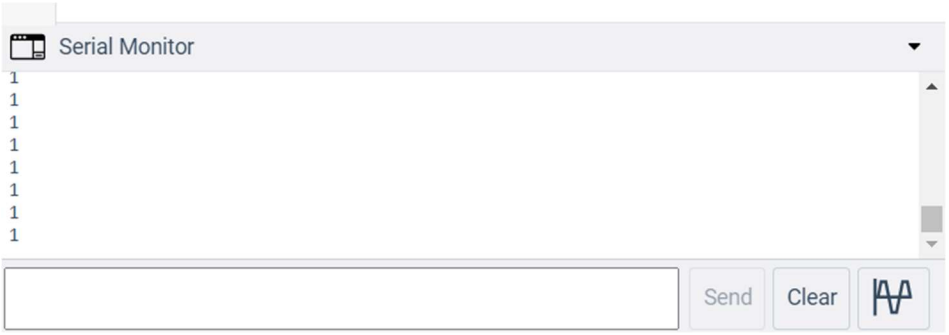
Arduino Code -:

Text

```
int motionSense;

void setup()
{
  pinMode(2, INPUT);
  pinMode(5, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  motionSense=digitalRead(2);
  Serial.println(motionSense);
  if(motionSense==HIGH)
  {
    digitalWrite(5, HIGH);
  }
  else
  {
    digitalWrite(5, LOW);
  }
}

```

Output Screen Shot -:



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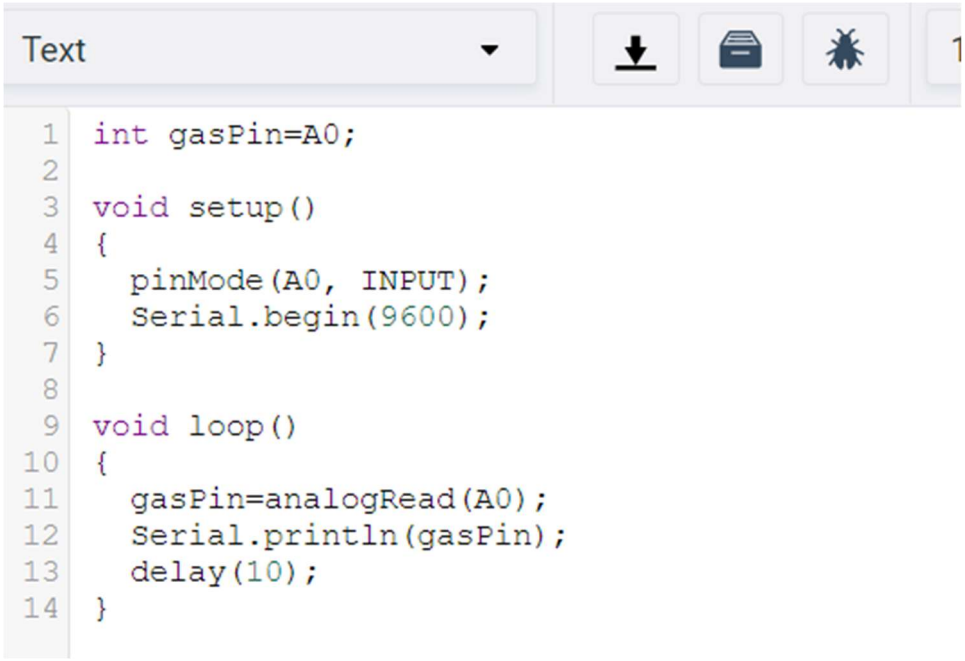
Week#____8_____ Program Number: ___5__

**Implement a Tinkercad simulation for gas leakage detection with buzzer system using Arduino**

Arduino Code -:



Output Screen Shot -: