IBM ASSIGNMENT 1-IOT
REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

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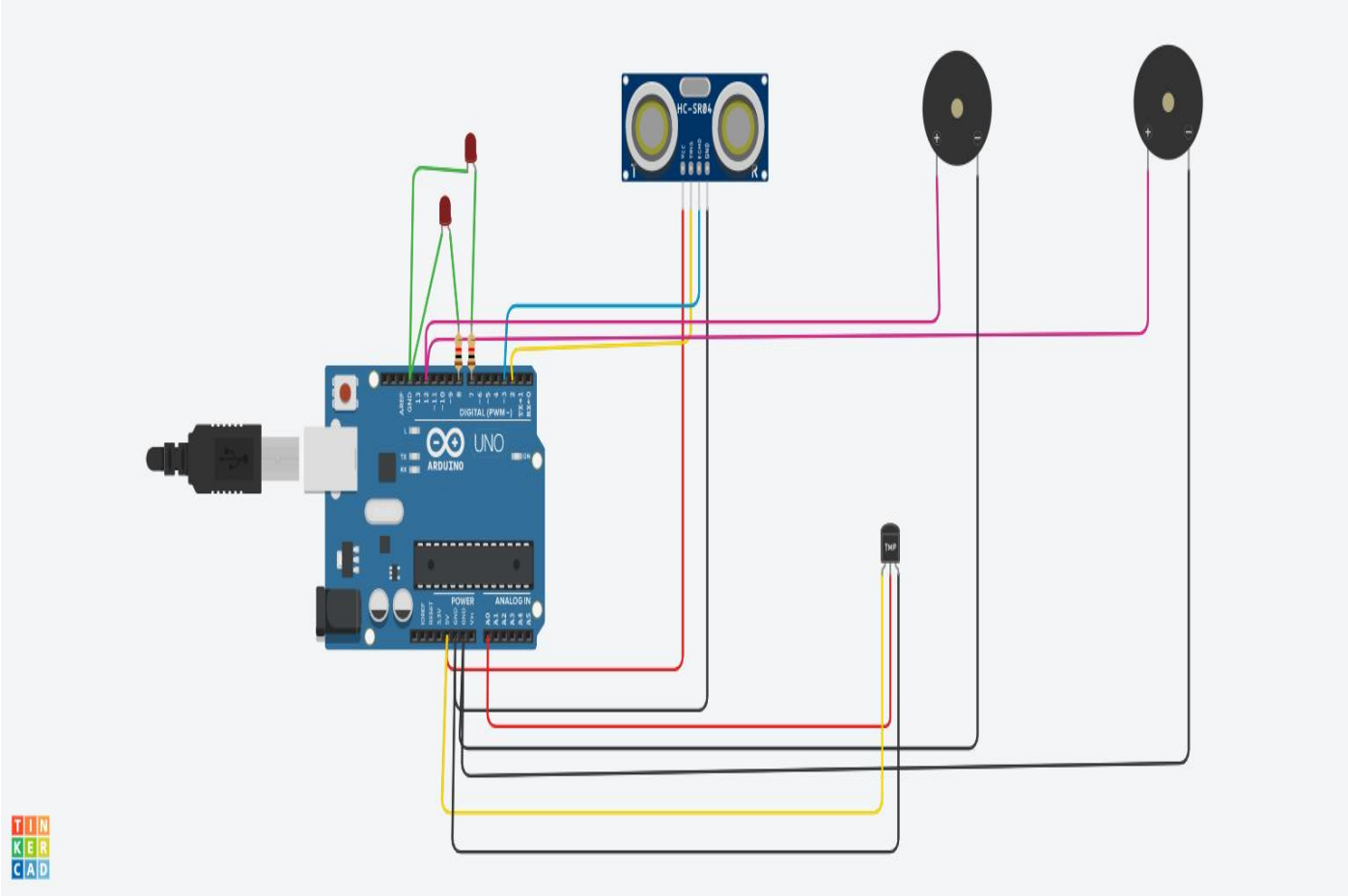
Topic:

Circuit Design of Home Automation System in Tinkercad using 2+ sensors, LED, Buzzer in single code and circuit.

Circuit:



Code :

```
int z=2;
int a=3;

void setup()
{
  Serial.begin(9600);
  pinMode(z,OUTPUT);
  pinMode(a,INPUT);
  pinMode(12,OUTPUT);
}

void loop()
{
  //ultrasonic sensor
  digitalWrite(z,LOW);
  digitalWrite(z,HIGH);
  delayMicroseconds(10);
  digitalWrite(z,LOW);
  float dur=pulseIn(a,HIGH);
  float dis=(dur*0.0343)/2;
  Serial.print("Distance is: ");
  Serial.println(dis);

    //LED ON
  if(dis>=100)
  {
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
  }

  //Buzzer For ultrasonic Sensor
```

```
if(dis>=100)
{
for(int i=0; i<=30000; i=i+10)
{
tone(12,i);
delay(1000);
noTone(12);
delay(1000);
}
}
```

```
  //Temperate Sensor
double a= analogRead(A0);
double z=(((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
Serial.println(z);
delay(1000);
```

```
//LED ON
if(z>=100)
{
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
}
```

```
//Buzzer for Temperature Sensor
if(z>=100)
{
```

```
  for(int i=0; i<=30000; i=i+10)
  {
  tone(12,i);
  delay(1000);
  noTone(12);
  delay(1000);
  }
  }

   //LED OFF
  if(z<100)
  {
    digitalWrite(8,LOW);
    digitalWrite(7,LOW);
  }
}
```