

ASSIGNMENT-1:

SMART HOME AUTOMATION(smart door and water level monitoring)

```
int trigger_pin = 2;
```

```
int echo_pin = 3;
```

```
int buzzer_pin = 10;
```

```
int time;
```

```
int distance;
```

```
int distance1 = 0;
```

```
int red =4;
```

```
int blue =5;
```

```
int green = 6;
```

```
long readUltrasonicDistance (int triggerPin, int echoPin)
```

```
{
```

```
pinMode (triggerPin, OUTPUT);
```

```
digitalWrite(triggerPin, LOW);
```

```
delayMicroseconds(2);
```

```
digitalWrite(triggerPin, HIGH);
```

```
delayMicroseconds (10);
```

```
digitalWrite(triggerPin, LOW);
```

```
pinMode (echoPin, INPUT);
```

```
return pulseIn(echoPin, HIGH);
```

```
}
```

```
void waterlevel(int dist1)
```

```
{
```

```
if (dist1> 200)
```

```

{
digitalWrite(red, HIGH);
digitalWrite(blue, LOW);
digitalWrite(green, LOW);
delay(2000);
}
if (dist1 > 100 && dist1 < 200)
{
digitalWrite(red, LOW);
digitalWrite(blue, HIGH);
digitalWrite(green, LOW);
delay(2000);
}
if (dist1 <= 100)
{
digitalWrite(red, LOW);
digitalWrite(blue, LOW);
digitalWrite(green, HIGH);
delay(2000);
}
}

void door(int dist)
{
if (dist <= 10)
{
Serial.println(" Door Open ");
Serial.print (" Distance: ");
Serial.println (dist);
digitalWrite (buzzer_pin, HIGH);

```

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

```
void setup()  
{  
  Serial.begin(9600);  
  pinMode (2, OUTPUT);  
  pinMode (3, INPUT);  
  pinMode (10, OUTPUT);
```

```
  pinMode (4, OUTPUT);  
  pinMode (5, OUTPUT);  
  pinMode (6, OUTPUT);  
}
```

```
void loop()  
{  
  digitalWrite (trigger_pin, HIGH);  
  delayMicroseconds (10);  
  digitalWrite (trigger_pin, LOW);  
  time = pulseIn (echo_pin, HIGH);
```

```

distance = (time* 0.034) / 2;

door(distance);

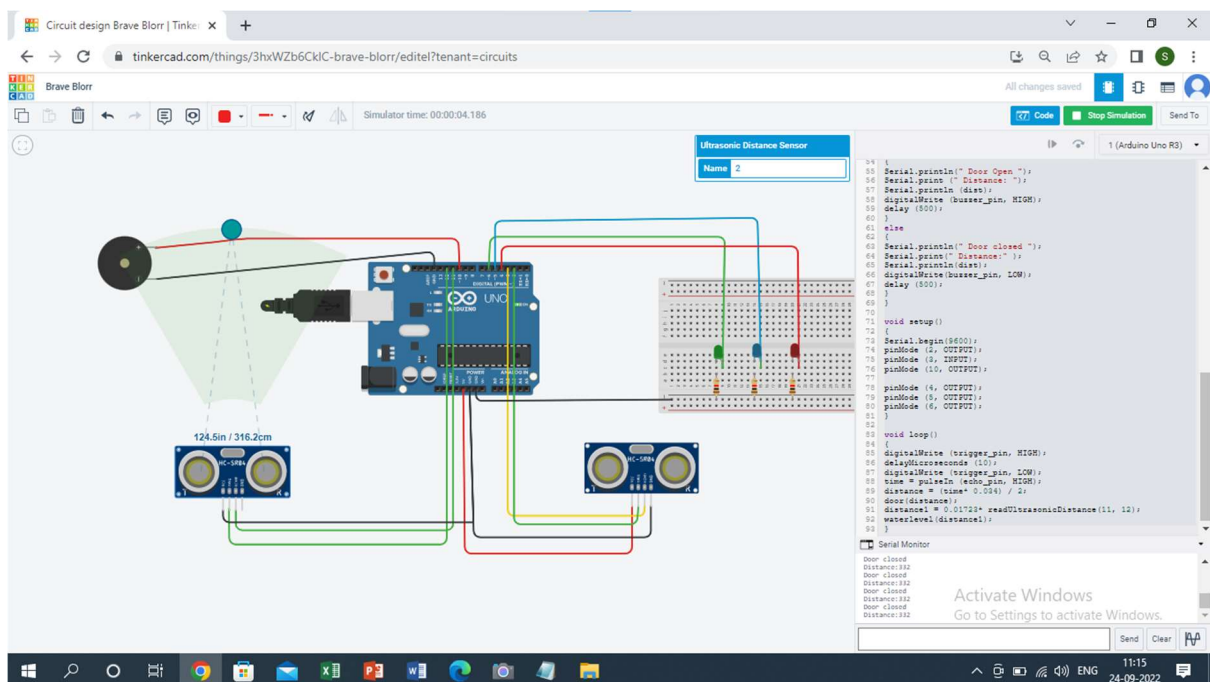
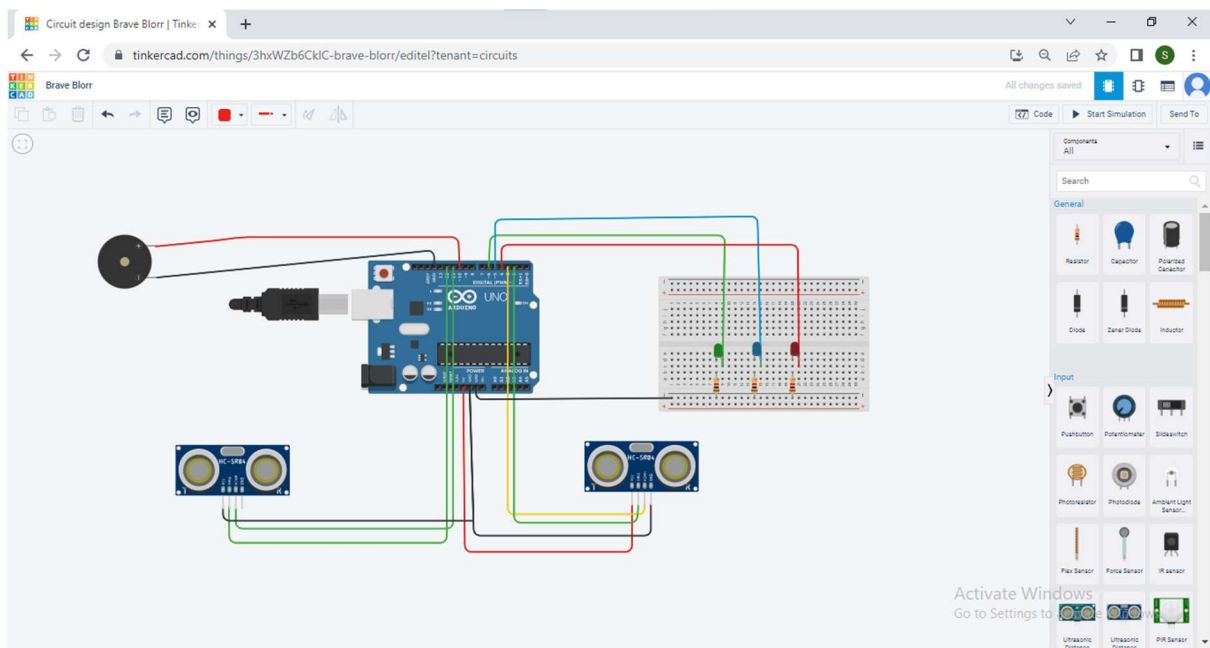
distance1 = 0.01723* readUltrasonicDistance(11, 12);

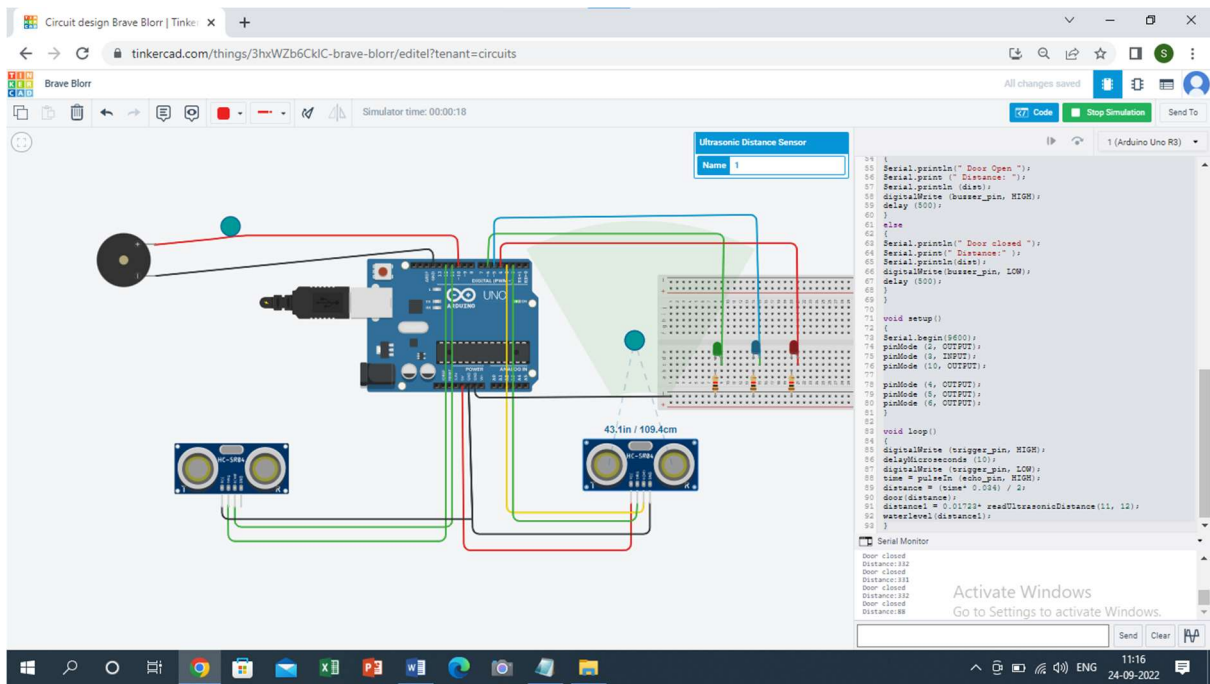
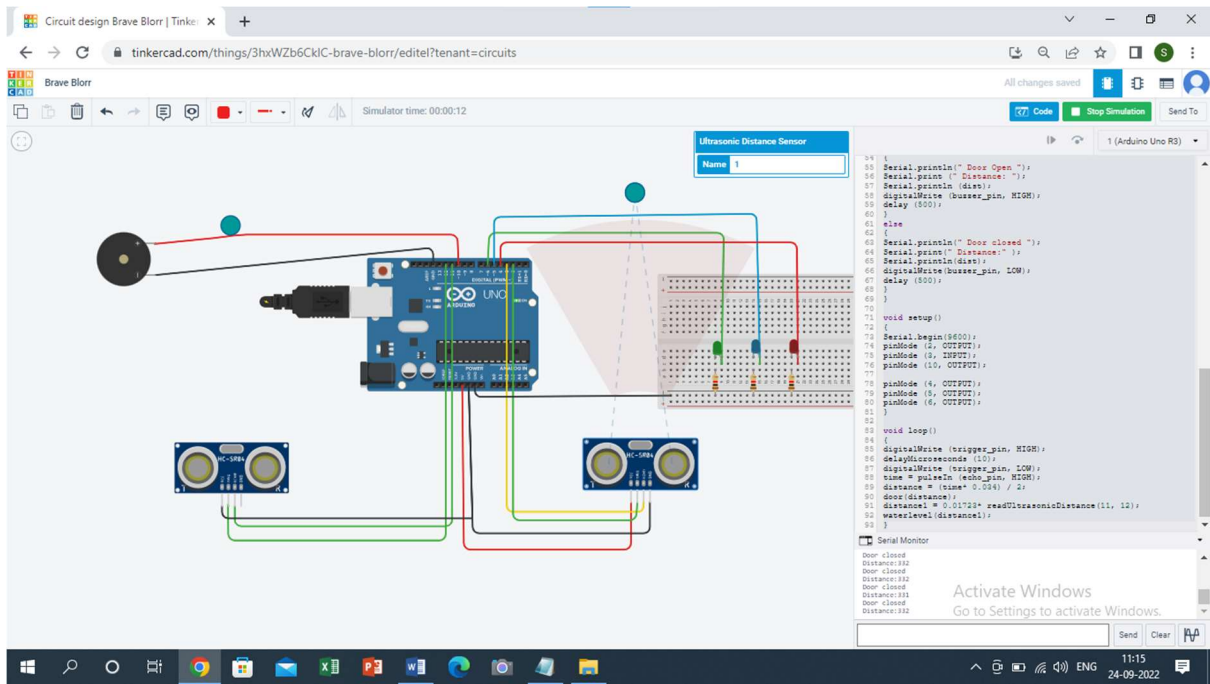
waterlevel(distance1);

}

OUTPUT:

```





Circuit design Brave Blorr | Tinker: x

tinkercad.com/things/3hxWZb6CkIC-brave-blorr/edit?tenant=circuits

Brave Blorr

Simulator time: 00:00:29.324

Ultrasonic Distance Sensor

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Serial Monitor

Door closed
Distance: 100
Door closed
Distance: 100
Door closed
Distance: 100
Door closed
Distance: 100
Door closed
Distance: 100

Activate Windows
Go to Settings to activate Windows.

11:16
24-09-2022