

Assignment -1 SMART HOME IN TINKERCAD

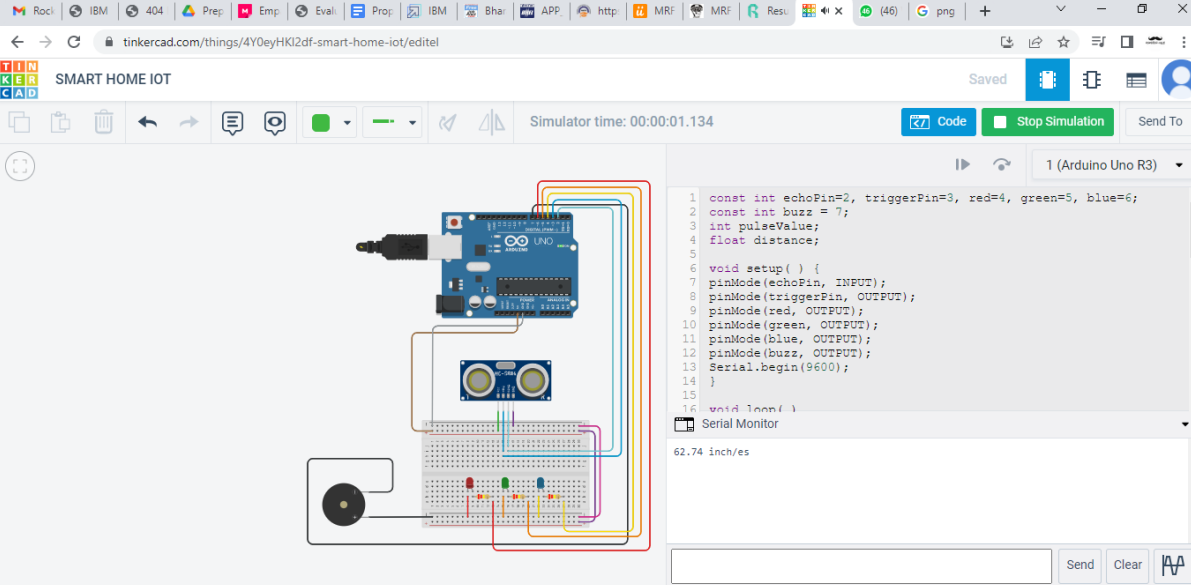
Assignment Date	19 September 2022
Student Name	C.NANDHINI
Student Roll Number	815119106025
Maximum Marks	2 Marks

Question-1:

Build a smart home in tinkercad

Use atleast 2 sensors, led, buzzer in a circuit. Simulate in a single code.

Solution:



The screenshot displays the Tinkercad web interface for a project titled "SMART HOME IOT". The circuit consists of an Arduino Uno R3 connected to a breadboard. On the breadboard, there are two LEDs (red and blue), a buzzer, and a distance sensor. The code on the right defines the pins and implements a setup and loop function. The Serial Monitor shows the output "62.74 inch/es".

```
1 const int echoPin=2, triggerPin=3, red=4, green=5, blue=6;
2 const int buzz = 7;
3 int pulseValue;
4 float distance;
5
6 void setup() {
7   pinMode(echoPin, INPUT);
8   pinMode(triggerPin, OUTPUT);
9   pinMode(red, OUTPUT);
10  pinMode(green, OUTPUT);
11  pinMode(blue, OUTPUT);
12  pinMode(buzz, OUTPUT);
13  Serial.begin(9600);
14 }
15
16 void loop() {
17   Serial Monitor
18   62.74 inch/es
```

CODE:

```
const int echoPin=2, triggerPin=3, red=4, green=5, blue=6;
```

```
const int buzz = 7;
```

```
int pulseValue;
```

```
float distance;
```

```
void setup( ) {
```

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

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

```
  pinMode(red, OUTPUT);
```

```
  pinMode(green, OUTPUT);
```

```
  pinMode(blue, OUTPUT);
```

```
  pinMode(buzz, OUTPUT);
```

```
  Serial.begin(9600);
```

```
}
```

```
void loop( )
```

```
{
```

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

```
  delayMicroseconds(5);
```

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

```
  delayMicroseconds(10);
```

```
  pulseValue=pulseIn(echoPin, HIGH);
```

```
  distance=(pulseValue*0.0001657*39.37);
```

```
  if (distance<=5)
```

```
{
```

```
digitalWrite(red, HIGH);  
digitalWrite(green, LOW);  
digitalWrite(blue, LOW);  
tone(buzz, 500);  
}
```

```
else if (distance<=10)  
{  
    digitalWrite(green, HIGH);  
    digitalWrite(red, LOW);  
    digitalWrite(blue, LOW);  
    tone(buzz, 1000);  
}
```

```
else  
{  
    digitalWrite(blue, HIGH);  
    digitalWrite(red, LOW);  
    digitalWrite(green, LOW);  
    tone(buzz, 1500);  
}
```

```
Serial.print(distance);  
Serial.println(" inch/es");  
delay(500);  
}
```