

# **SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES**

## **ASSIGNMENT – 1**

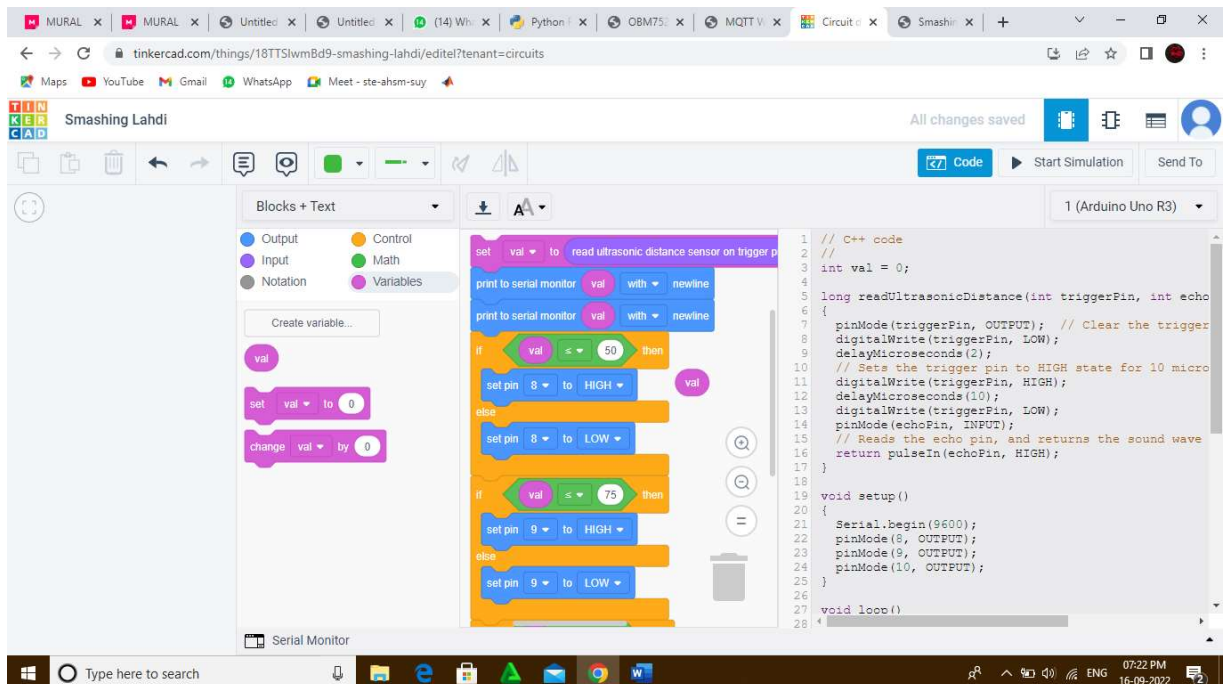
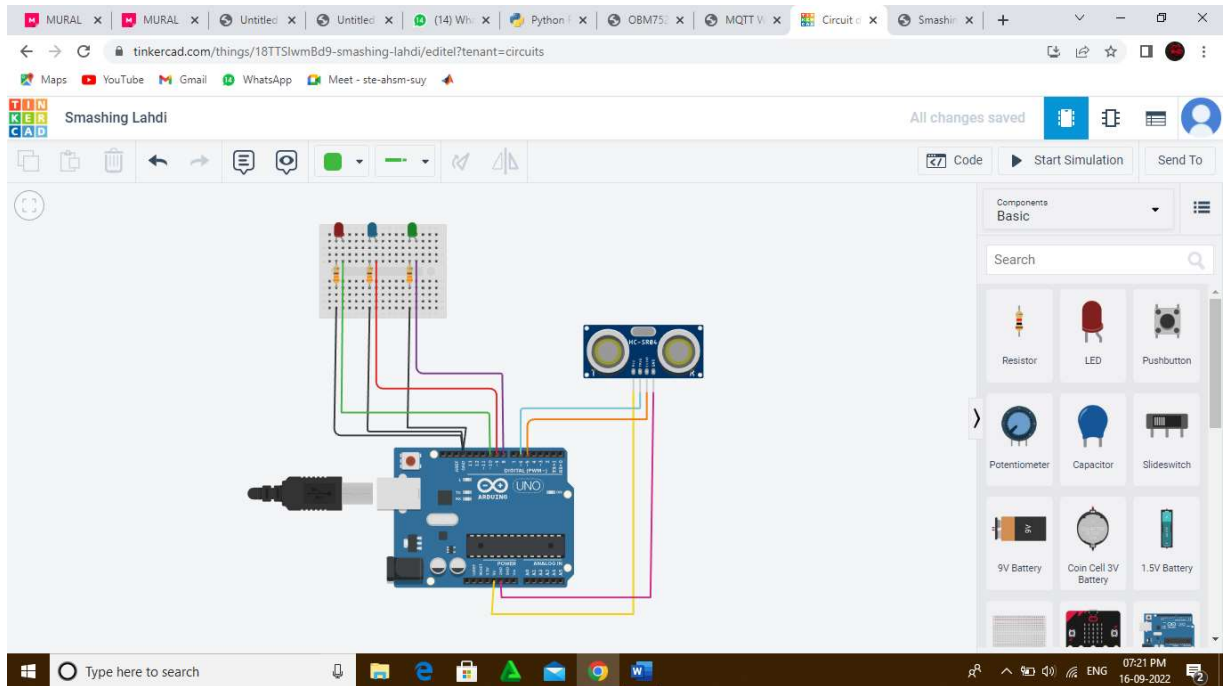
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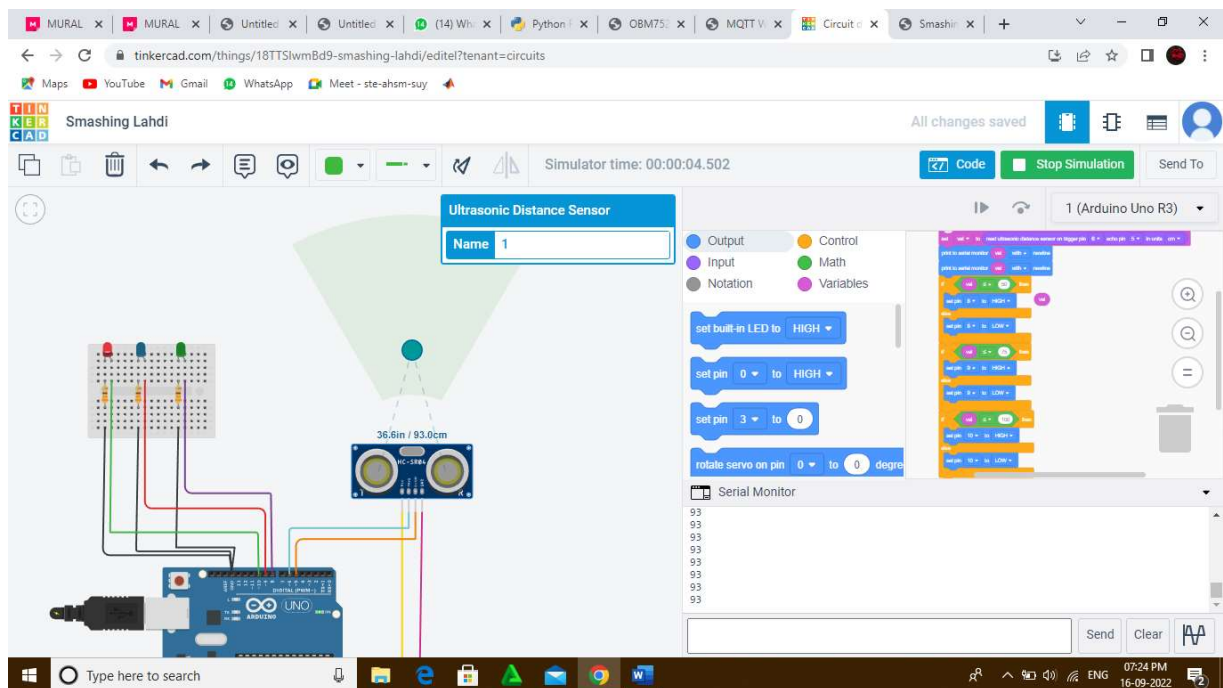
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# DISTANCE MEASUREMENT





## Program

// C++ code

//

int val = 0;

```
long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT); // Clear the trigger
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
```

```
pinMode(echoPin, INPUT);  
// Reads the echo pin, and returns the sound wave travel time in microseconds  
return pulseIn(echoPin, HIGH);  
}
```

```
void setup()  
{  
  Serial.begin(9600);  
  pinMode(8, OUTPUT);  
  pinMode(9, OUTPUT);  
  pinMode(10, OUTPUT);  
}
```

```
void loop()  
{  
  val = 0.01723 * readUltrasonicDistance(6, 5);  
  Serial.println(val);  
  Serial.print(val);  
  if (val <= 50) {  
    digitalWrite(8, HIGH);  
  } else {  
    digitalWrite(8, LOW);  
  }  
  if (val <= 75) {  
    digitalWrite(9, HIGH);  
  } else {  
    digitalWrite(9, LOW);  
  }  
}
```

```
if (val <= 100) {  
    digitalWrite(10, HIGH);  
} else {  
    digitalWrite(10, LOW);  
}  
delay(10); // Delay a little bit to improve simulation performance  
}
```