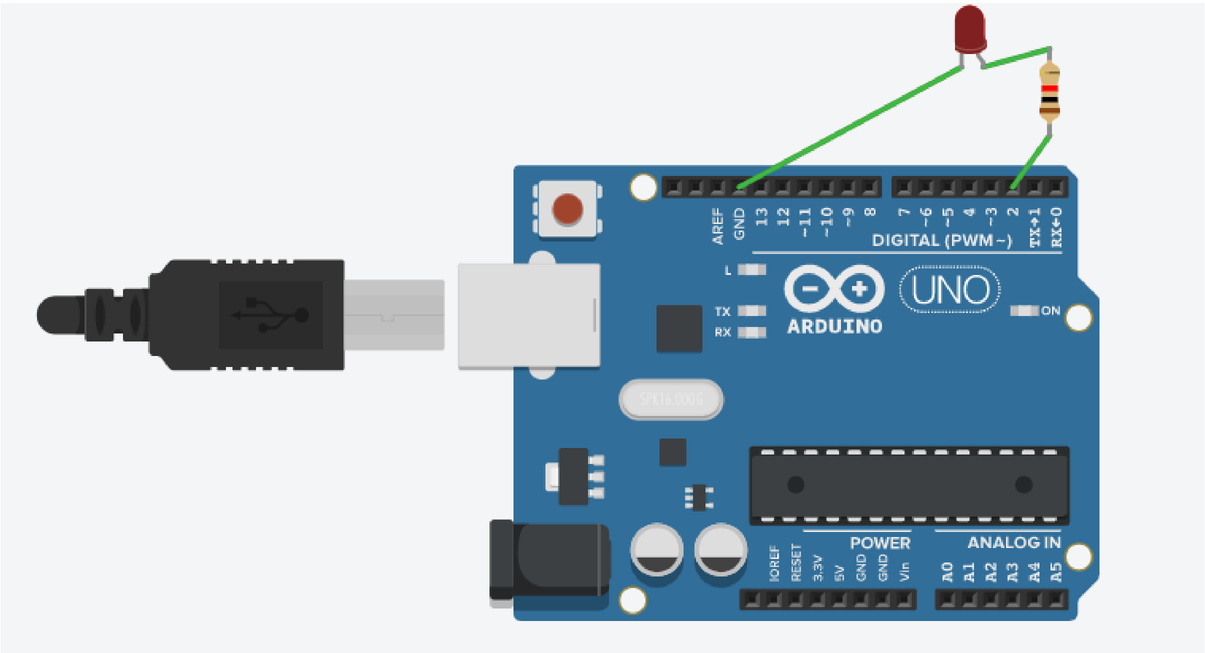
Experiment 4

**Hemish Shah J056**

***Code1***

```
void setup()

{

pinMode(13, OUTPUT);

Serial.begin(9600);

while (!Serial);

Serial.println("Input 1 to Turn LED on and 2 to off");

}

void loop() {

if (Serial.available())

{

int state = Serial.parseInt();

if (state == 1)

{

digitalWrite(13, HIGH);

Serial.println("Command completed LED turned ON");

}

if (state == 2)

{

digitalWrite(13, LOW);

Serial.println("Command completed LED turned OFF");

}

}

}
```

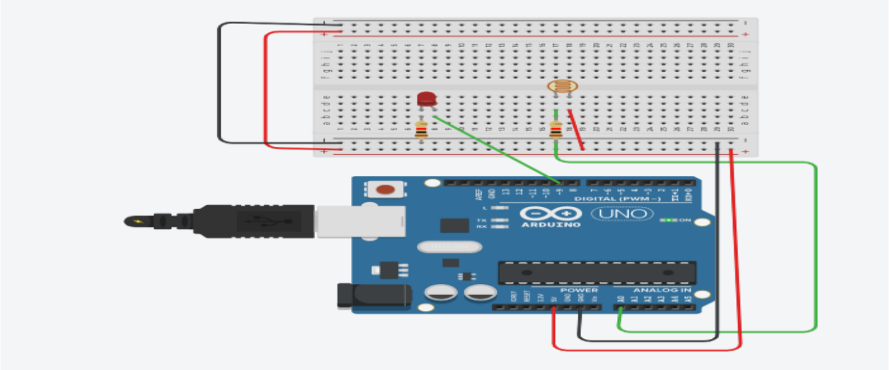
***<u>Code2</u>***



```
void setup()
{
pinMode(2, OUTPUT);
Serial.begin(9600);
while (!Serial);
Serial.println("Input 1 to Turn LED on and 2 to off");
}


void loop()
 {
if (Serial.available())
{
int state = Serial.parseInt();
if (state == 1)
{
```

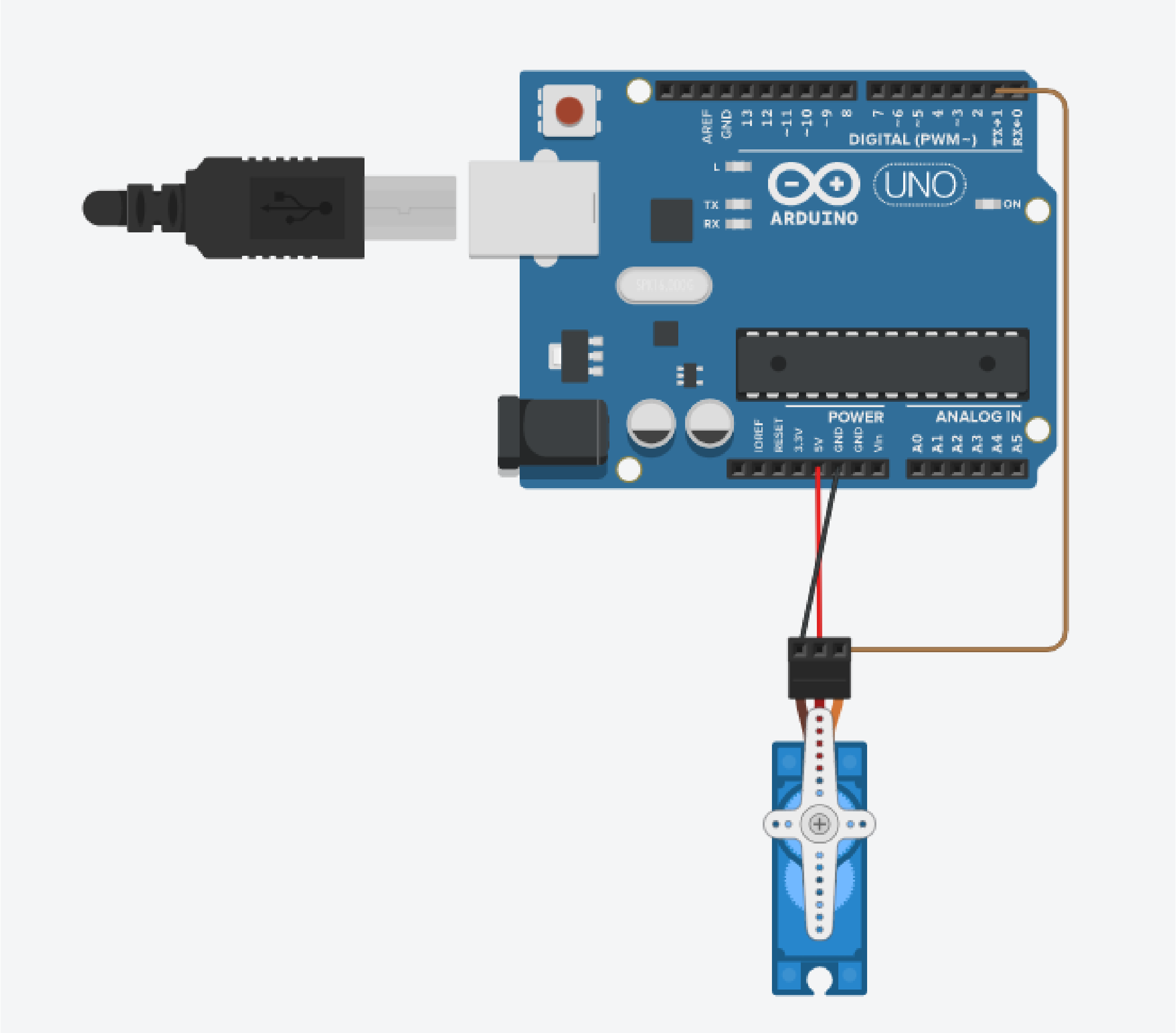
```
digitalWrite(2, HIGH);

Serial.println("Command completed LED turned ON");

}

if (state == 2)

{

digitalWrite(2, LOW);

Serial.println("Command completed LED turned OFF");

}

}

}
```

***<u>Code3</u>***



```
int sensorValue = 0;
void setup()
{
  pinMode(A0, INPUT);
  Serial.begin(9600);
  pinMode(9, OUTPUT);
}

void loop()
{
  // read the value from the sensor
  sensorValue = analogRead(A0);
  // print the sensor reading so you know its range
  Serial.println(sensorValue);
  analogWrite(9, map(sensorValue, 0, 1023, 0, 255));
  delay(100); // Wait for 100 millisecond(s)
}
```

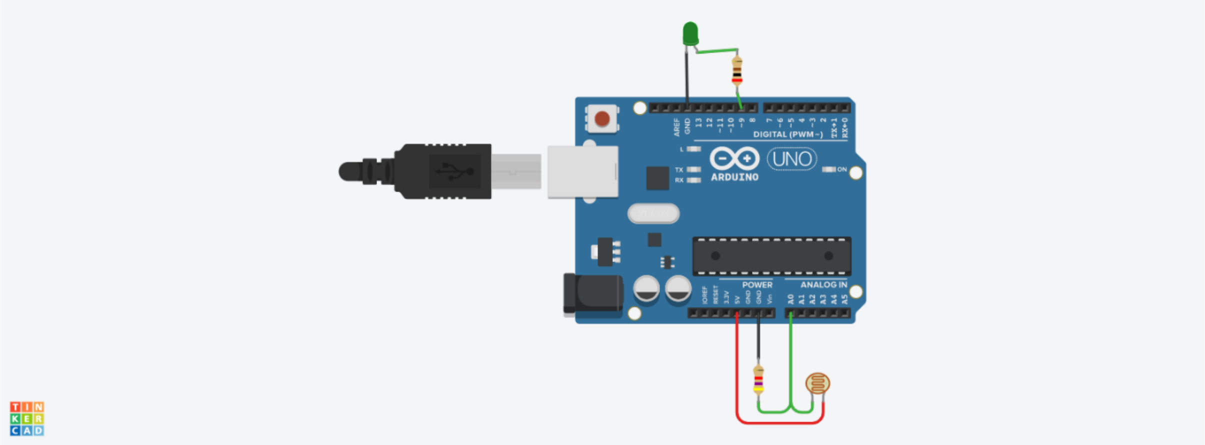
***Code4***



```
Servo servo_1;

void setup()

{

 servo_1.attach(1, 500, 2500);

}

void loop()

{

 servo_1.write(0);

 delay(1000); // Wait for 1000 millisecond(s)

 servo_1.write(45);

 delay(1000); // Wait for 1000 millisecond(s)
```

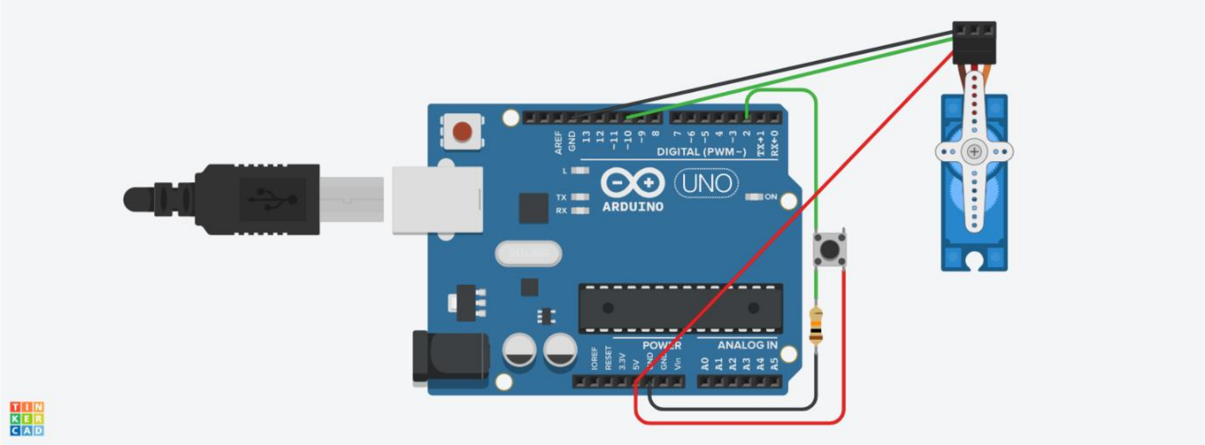
}

***Code5***



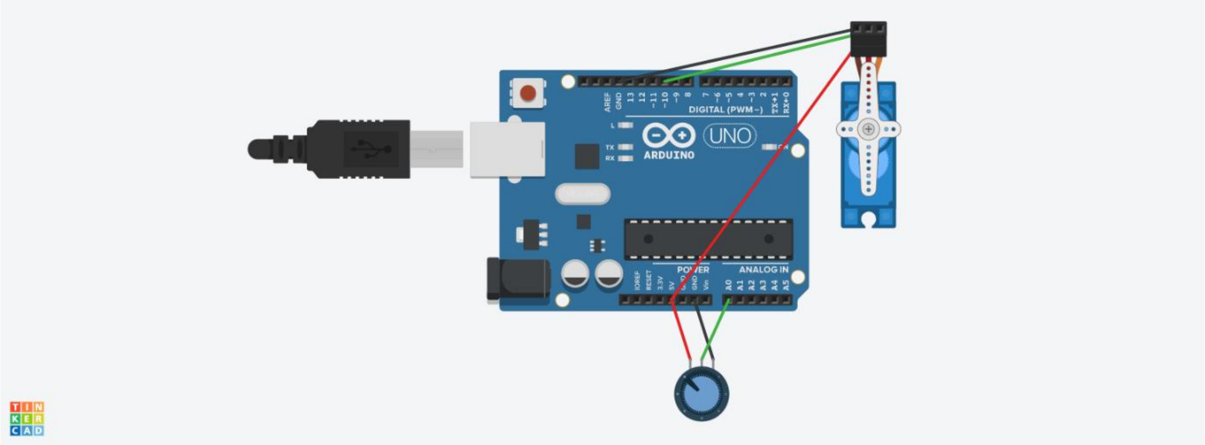
```
void setup()

{

  pinMode(A0, INPUT);

  pinMode(9, OUTPUT);

  Serial.begin(9600);

}


void loop()

{

  int sensorReading = analogRead(A0);

  Serial.println(sensorReading);

  int modifiedSensorReading = map(sensorReading,26,923,0,256);

  analogWrite(9,modifiedSensorReading);

  delay(10);

}
```

***Code6***



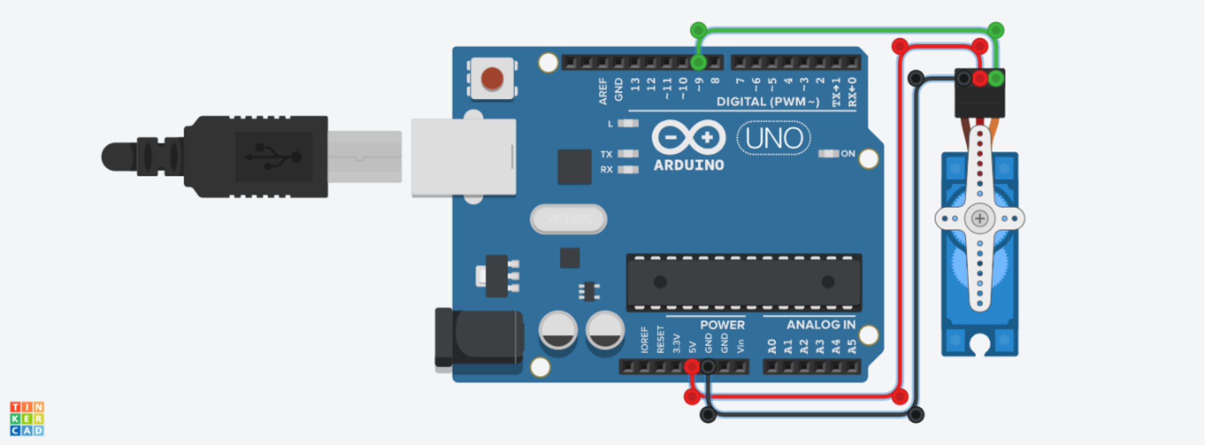
```
#include<Servo.h>
int buttonState = 0;
Servo myservo;
int val;
void setup()
{
  pinMode(2, INPUT);
  pinMode(13, OUTPUT);
  myservo.attach(10);
}

void loop()
{
  int buttonState = digitalRead(2);
  if (buttonState == HIGH) {
    val=180;
  } else {
    val=0;
  }
  myservo.write(val);
  delay(10);
}
```

***Code7***



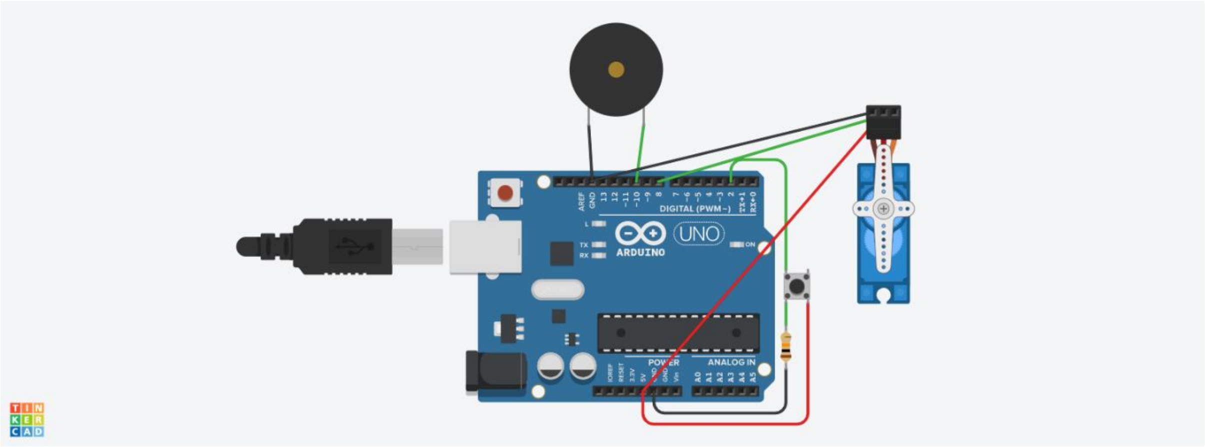
```
#include<Servo.h>

Servo myservo;

int sensorValue = 0;


void setup()

{

  pinMode(A0, INPUT);

  pinMode(13, OUTPUT);

  myservo.attach(10);

}


void loop()

{

  delay(100);

  sensorValue = analogRead(A0);

  myservo.write(sensorValue);

  delay(10);


}
```

***<u>Code8</u>***



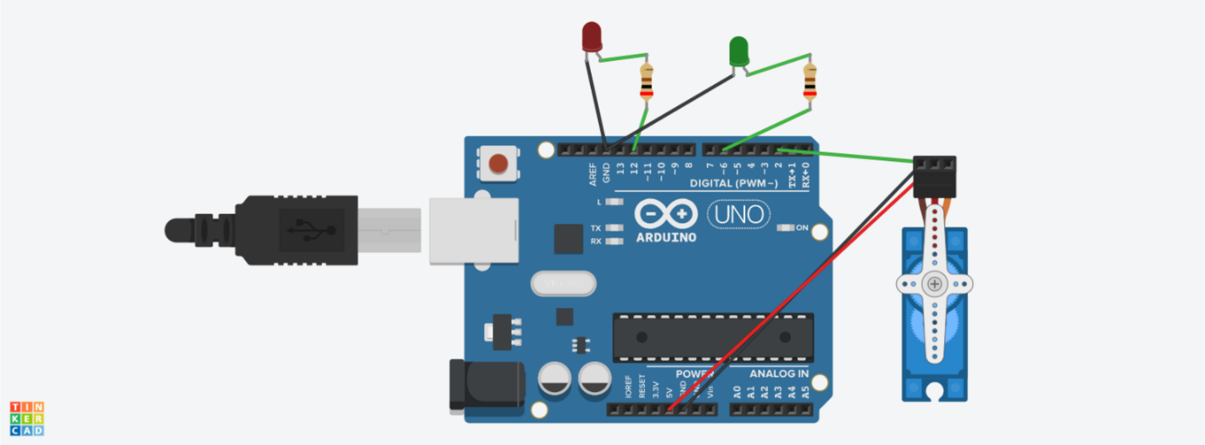
```
#include <Servo.h>
int pos = 0;
Servo servo_9;
void setup()
{
  servo_9.attach(9, 500, 2500);
}
void loop()
{
  for (pos = 0; pos <= 180; pos += 1) {
    servo_9.write(pos);
    delay(10); // Wait for 10 millisecond(s)
  }
  for (pos = 180; pos >= 0; pos -= 1) {

    servo_9.write(pos);
    delay(10); // Wait for 10 millisecond(s)
  }
}
```

***Code9***



```
#include<Servo.h>

int buttonState = 0;

Servo myservo;

int val;

void setup()

{

  pinMode(2, INPUT);

  pinMode(10, OUTPUT);

  myservo.attach(8);

}

void loop()

{

  int buttonState = digitalRead(2);

  if (buttonState == HIGH) {

    tone(10,250);

    val=90;// door opening at 90 degree

    delay(10);

    noTone(10);

  }

  else {

    val=0;
  }
  myservo.write(val);
  delay(10);
}
```

***Code10***



```
#include<Servo.h>
Servo myservo;
void setup()
{
  pinMode(6, OUTPUT);// green
  pinMode(12, OUTPUT);// red
  myservo.attach(2);
}

void loop()
{
  digitalWrite(12, HIGH);
  myservo.write(0);
  delay(5000);
  digitalWrite(12, LOW);
  delay(500);
  digitalWrite(6, HIGH);
  myservo.write(90);
  delay(5000);

  digitalWrite(6, LOW);

  delay(10);

}
```