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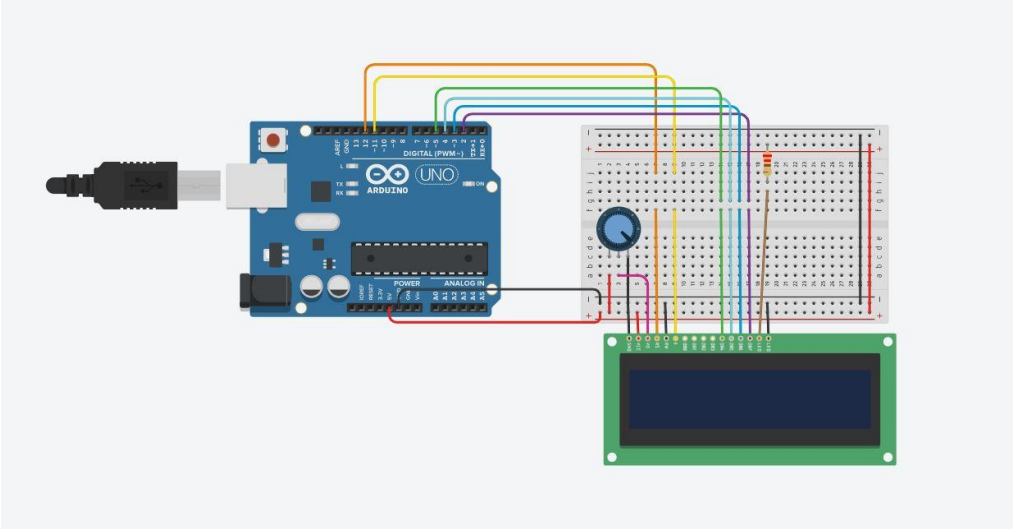
J056 (B. Tech DS)

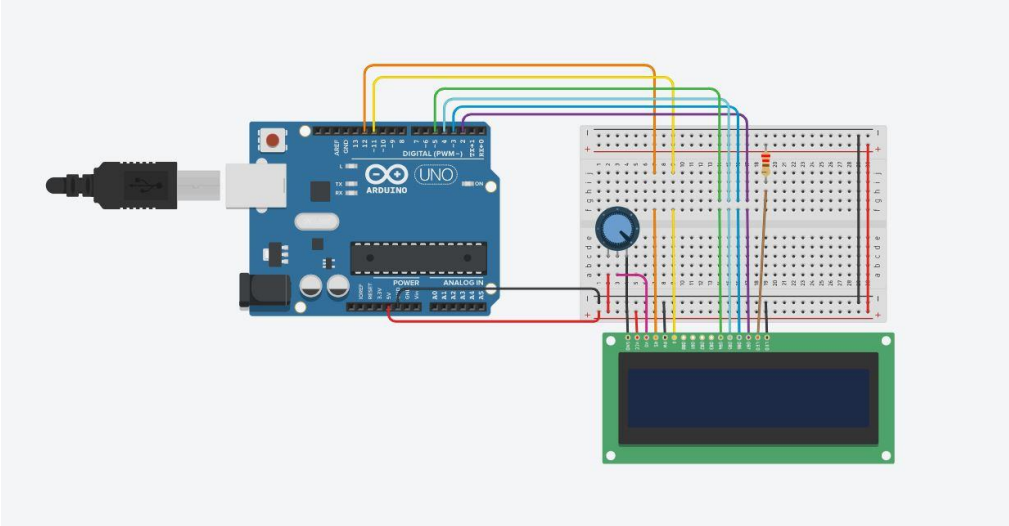
EXPERIMENT 6

1. **Blink any text on LCD**



```
#include <LiquidCrystal.h>
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
void setup()
{
  lcd.begin(16, 2);
}
void loop()
{
  lcd.print("hello, world!");
  delay(500);
  lcd.clear();
  delay(500);
}
```

2. **Display customer name taken as input using serial monitor on LCD**

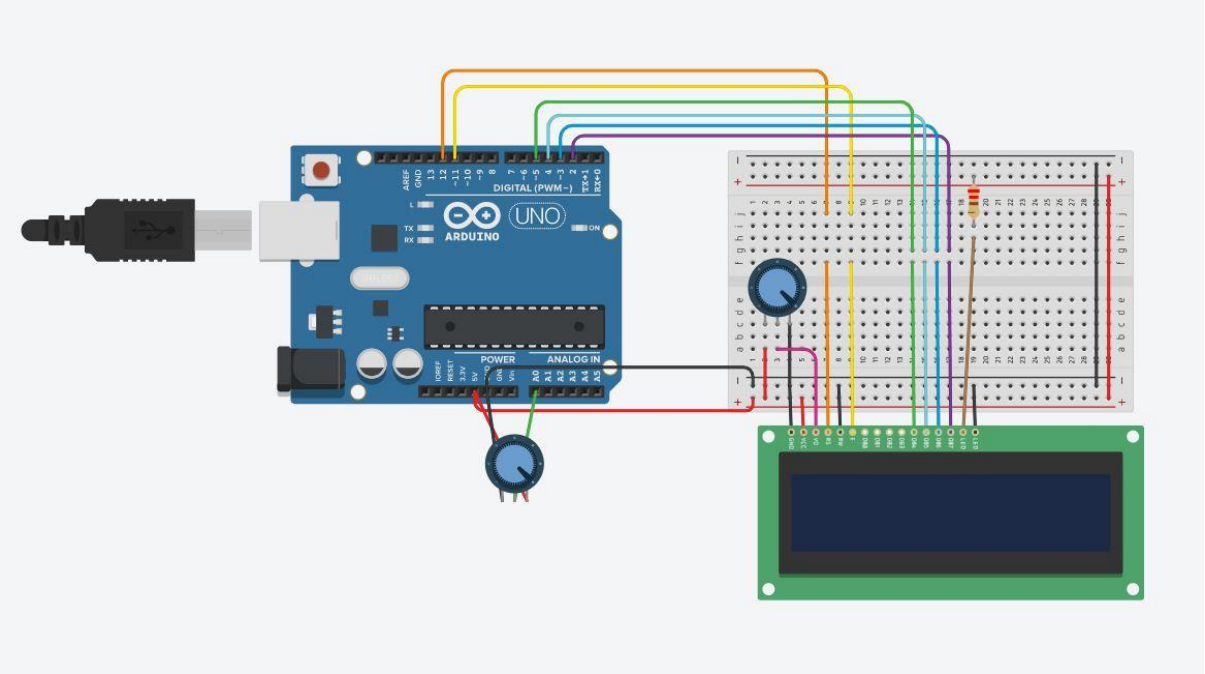



```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()

{

  lcd.begin(16,2);

  Serial.begin(9600);

}

void loop()

{

  if(Serial.available())

  {

    while(Serial.available()>0)

    {

      lcd.write(Serial.read());

    }
```

```
}
```

}

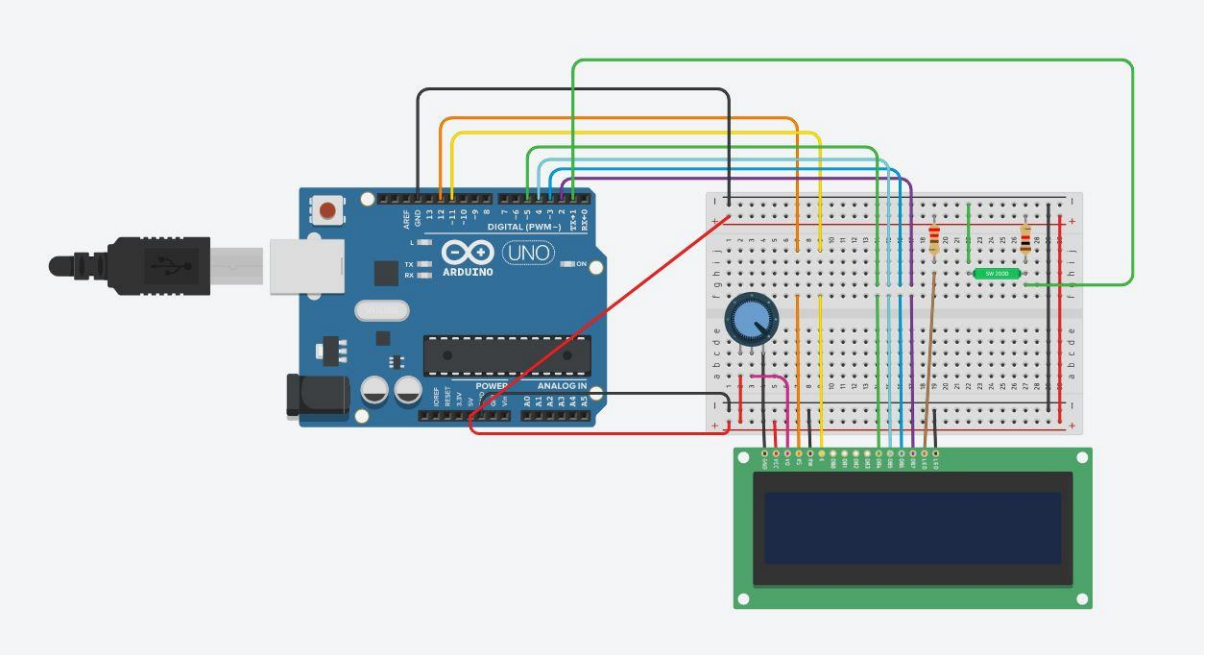
3. Display potentiometer reading on LCD




```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()

{

  lcd.begin(16,2);

  pinMode(A0, INPUT);

}

void loop()

{

  int sensorValue = analogRead(A0);

  lcd.setCursor(0,0);
```

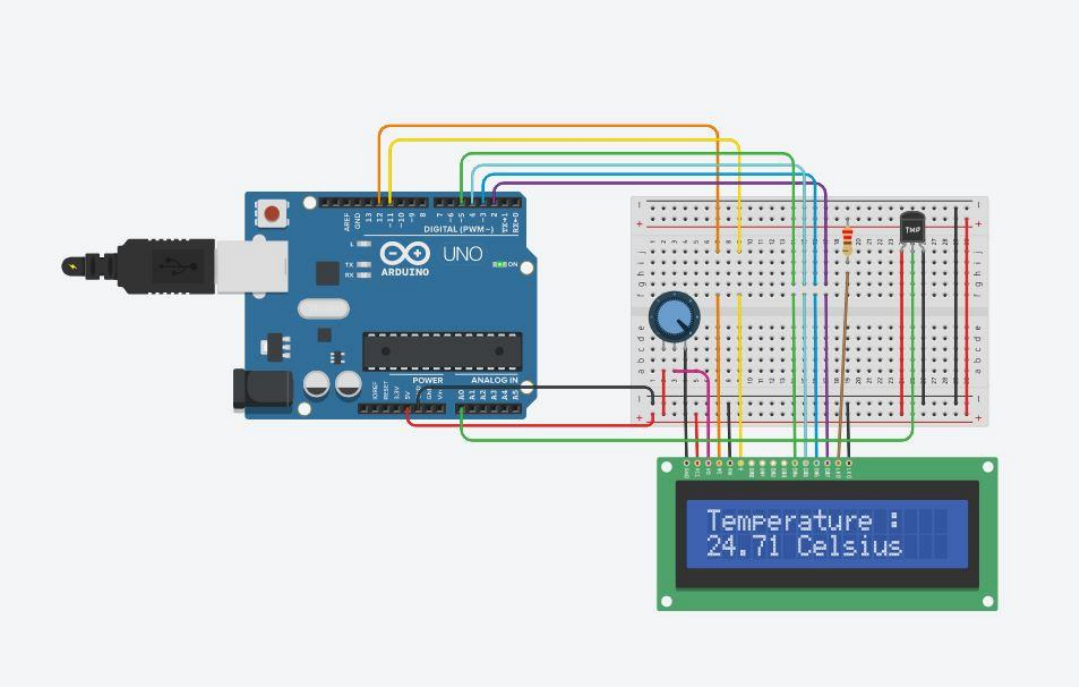
```
  lcd.print(sensorValue);

}
```

4. **Display tilt sensor reading on LCD**




```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()

{

  lcd.begin(16,2);

  pinMode(1, INPUT);

}

void loop()

{

  int read = digitalRead(1);

  lcd.setCursor(0,0);

  lcd.print(digitalRead(1));

}
```

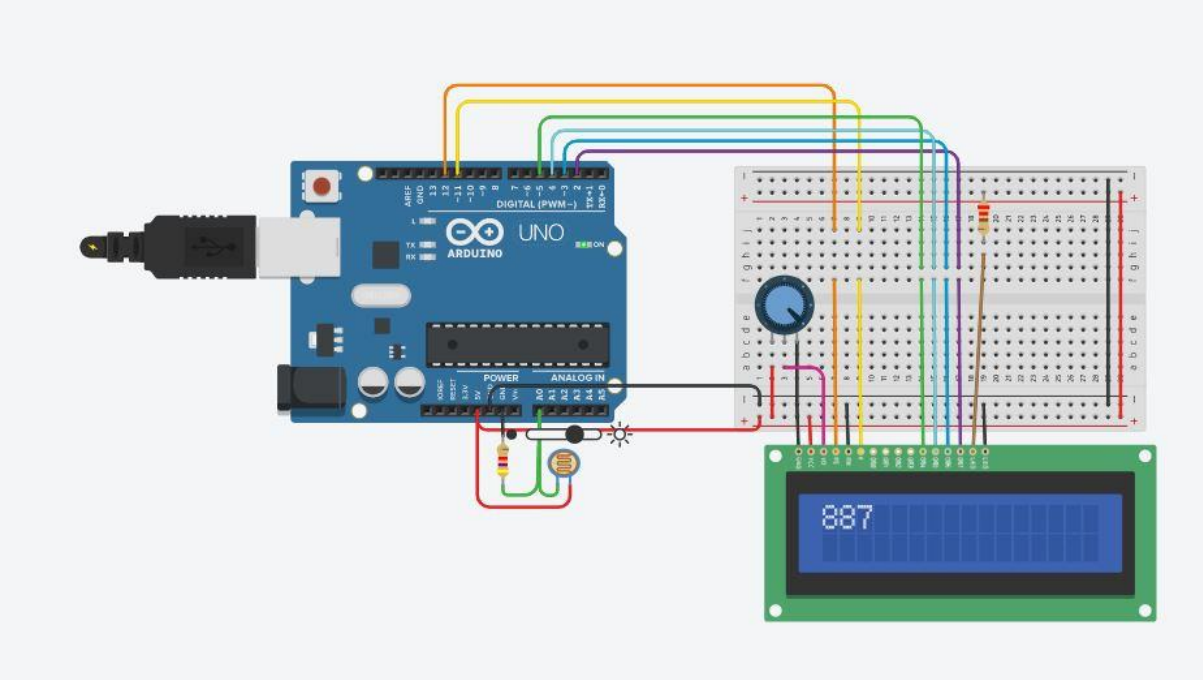
5. **Display temperature sensor reading on LCD**




```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

int sensorPin = A0;

void setup()

{

  lcd.begin(16,2);

  pinMode(13, OUTPUT);

}

void loop()

{

  double sensorInput = analogRead(A0);

  lcd.setCursor(0,0);
```

```
  double temp = sensorInput/1024;
  temp = (((temp*5)-0.5)*100);
  lcd.print("Temperature : ");
  lcd.setCursor(0,1);
  lcd.print(temp);
  lcd.print(" Celsius");
}
```

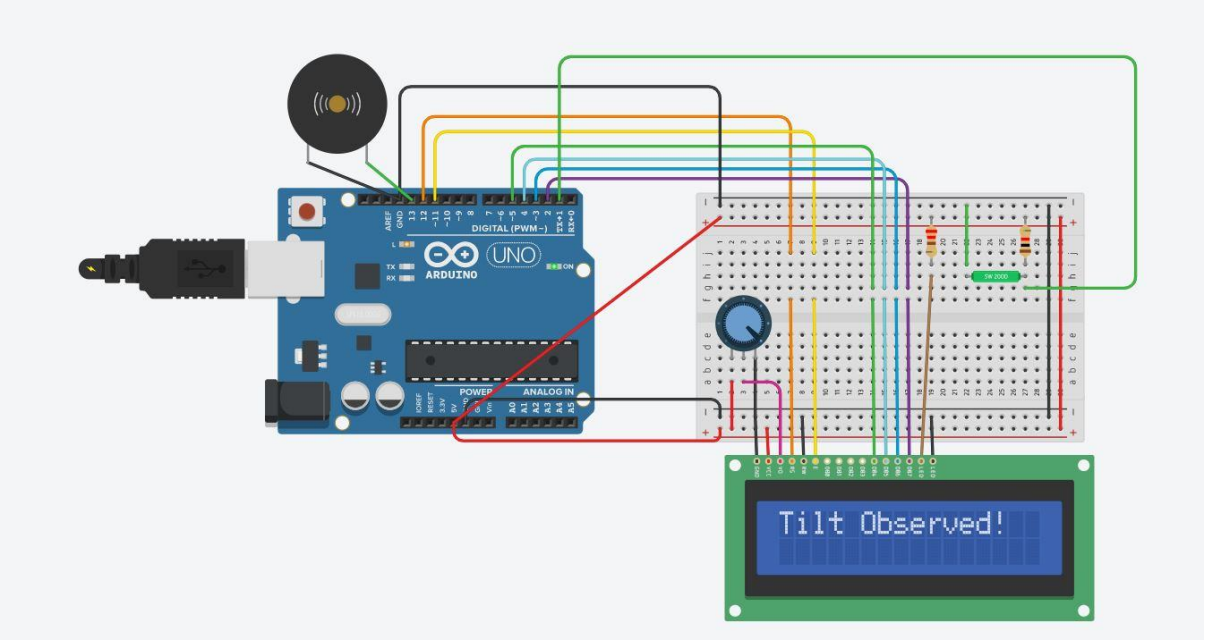
6. Display LDR reading on LCD




```
#include <LiquidCrystal.h>
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
```

```
void setup()
{
  lcd.begin(16,2);
  pinMode(A0, INPUT);
}
void loop()
{
  int lightIntensity = analogRead(A0);
  lcd.setCursor(0,0);
  lcd.print(lightIntensity);
  delay(500);
  lcd.clear();
}
```

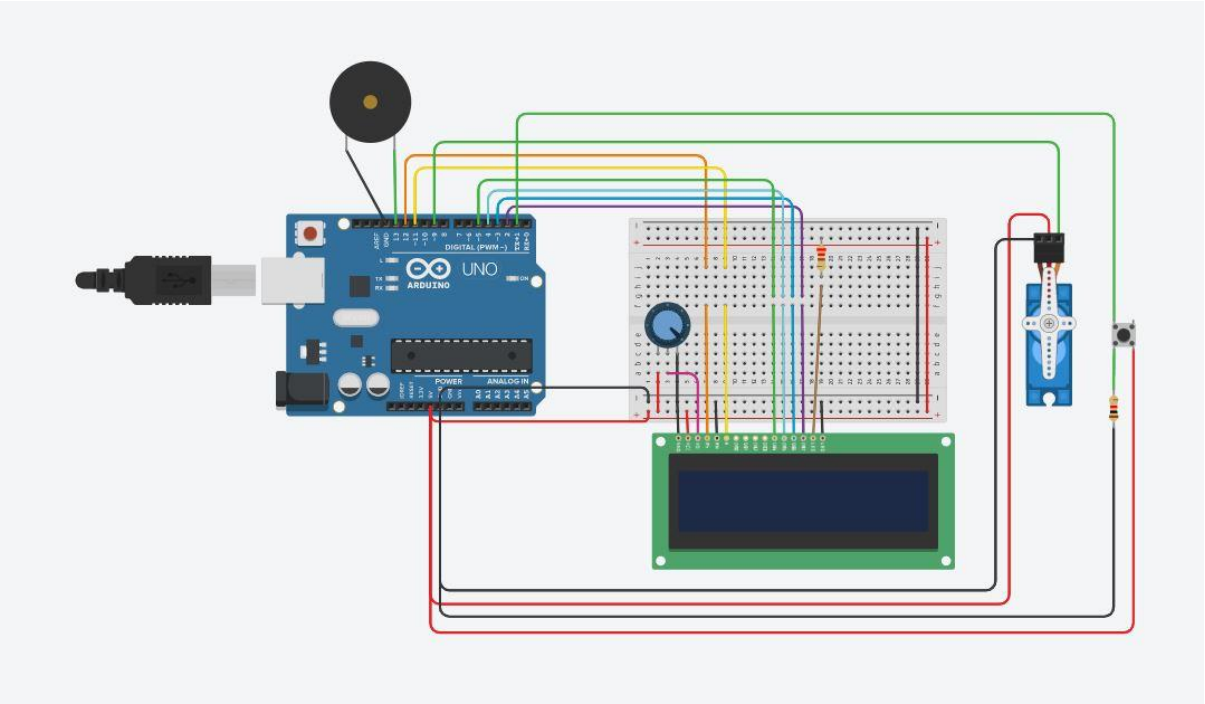
7. **If tilt is observed then buzzer should ring and LCD should display warning**




```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()

{

  lcd.begin(16,2);

  pinMode(1, INPUT);

  pinMode(13, OUTPUT);

}


void loop()

{

  int read = digitalRead(1);

  lcd.setCursor(0,0);

  if (read == 0)
```

```
  {
    tone(13, 512);
    lcd.print("Tilt Observed!");
    delay(1000);
    noTone(13);
    lcd.clear();
  }
}
```

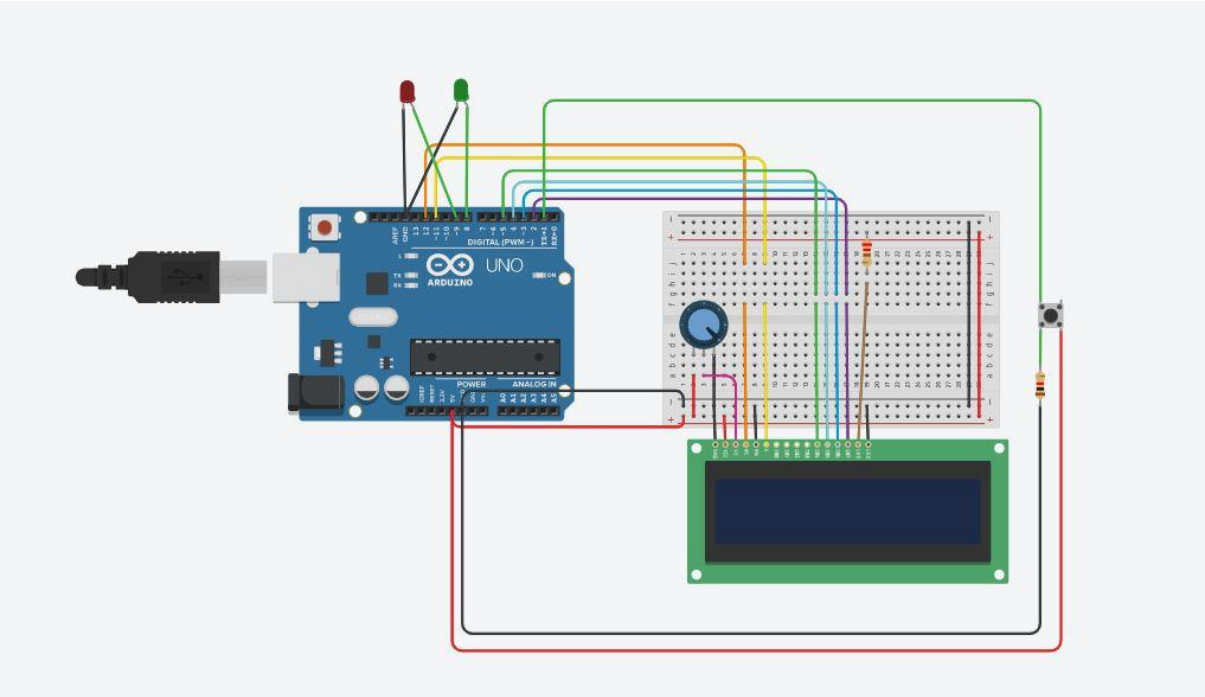
8. **If button is pressed, the shaft should rotate by 180 and buzzer should ring and LCD should display OPEN and CLOSED otherwise**




```
#include <LiquidCrystal.h>

#include <Servo.h>

Servo myservo;

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);


void setup()

{

  lcd.begin(16,2);

  pinMode(1,INPUT);

  pinMode(13, OUTPUT);

  myservo.attach(9);
```

```
}


void loop()
{
  int buttonState = digitalRead(1);
  lcd.setCursor(0,0);
  if (buttonState == HIGH)
  {
    lcd.clear();
    myservo.write(180);
    tone(13, 512);
    lcd.print("OPEN");
    delay(2000);
  }
  else
  {
    myservo.write(0);
    noTone(13);
    lcd.print("CLOSE");
    delay(500);
  }
}
```

9. **LCD should display “WALK” when traffic signal is RED and “STOP” when signal is green (use own settings for traffic signal)**




```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);


void setup()

{

  lcd.begin(16,2);

  pinMode(1,INPUT);

  pinMode(9, OUTPUT);

  pinMode(8, OUTPUT);

}


void loop()

{

  int buttonState = digitalRead(1);
```

```
  lcd.setCursor(0,0);
  if (buttonState == HIGH)
  {
    lcd.clear();
    digitalWrite(8, LOW);
    digitalWrite(9, HIGH);
    lcd.print("WALK");
    delay(3000);
  }
  else
  {
    lcd.clear();
    digitalWrite(9, LOW);
    digitalWrite(8, HIGH);
    lcd.print("STOP");
    delay(100);
  }
}
```