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**EXPERIMENT 6**

1. **Blink any text on LCD**

**![Diagram, schematic

Description automatically generated]()**

#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);

}

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

**![Diagram, schematic

Description automatically generated]()**

#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());

}

}

**}**

1. **Display potentiometer reading on LCD**

**![Diagram

Description automatically generated]()**

#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);

}

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

**![Diagram, schematic

Description automatically generated]()**

#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));

}

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

**![Diagram

Description automatically generated]()**

#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");

}

1. **Display LDR reading on LCD**

**![Diagram

Description automatically generated]()**

#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();

}

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

**![Diagram, schematic

Description automatically generated]()**

#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();

}

}

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

**![Diagram

Description automatically generated]()**

#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);

}

}

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

![Diagram

Description automatically generated]()

#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);

}

}