Enrolment/ Roll No.92100588007

Practical No. 8

Aim: Introduction to Basic IoT Components.

Objectives:

1. To learn Arduino UNO basics
2. To interface LCD, push button, potentiometer with Arduino and write a program to display message on LCD when push button is pressed.

Theory:

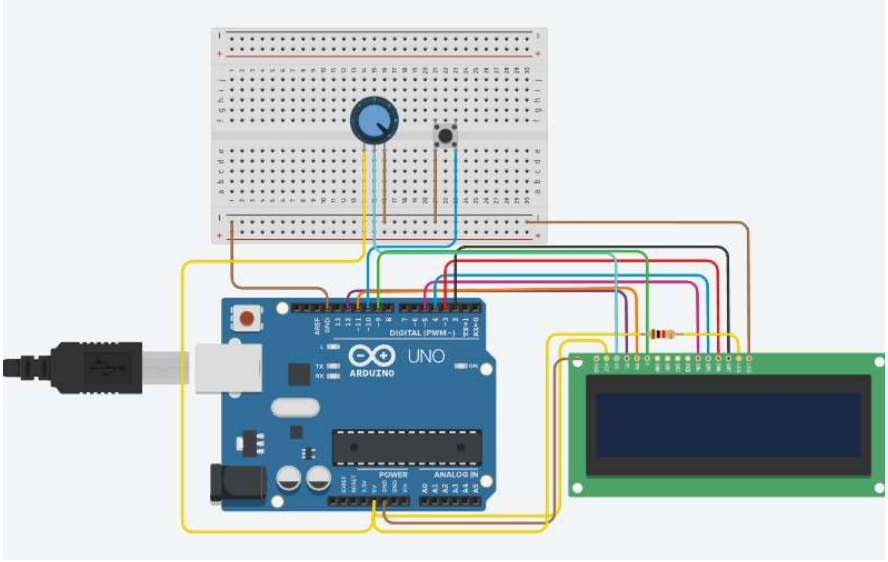
Hardware:

- Arduino board
- LCD display
- Push button
- Potentiometer
- Breadboard
- Jumper wires

Function:

- The LCD display will be used to display a message when the push button is pressed. The potentiometer will be used to adjust the brightness of the LCD display.

Circuit Diagram: (Download from tinkercad.com)



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Program:

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 9 , 5, 4, 3, 2);

const char* message= "hello";

void setup() {
  lcd.begin(16, 2);
  lcd.print(message);
  pinMode(10,INPUT_PULLUP);
  Serial.begin(9600);
}

void loop() {
  int buttonState = digitalRead(10);
  if (buttonState == LOW) {
    lcd.clear();
    lcd.print(message);

    Serial.print("Count: ");
    Serial.println(message);
  }


}
```

Output: (Screenshot of LED On)

Conclusion:This is a simple example of how to interface LCD, push button, and potentiometer with Arduino. You can use this as a starting point to create more complex projects, such as a digital clock or a weather station.