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1BM18CS090

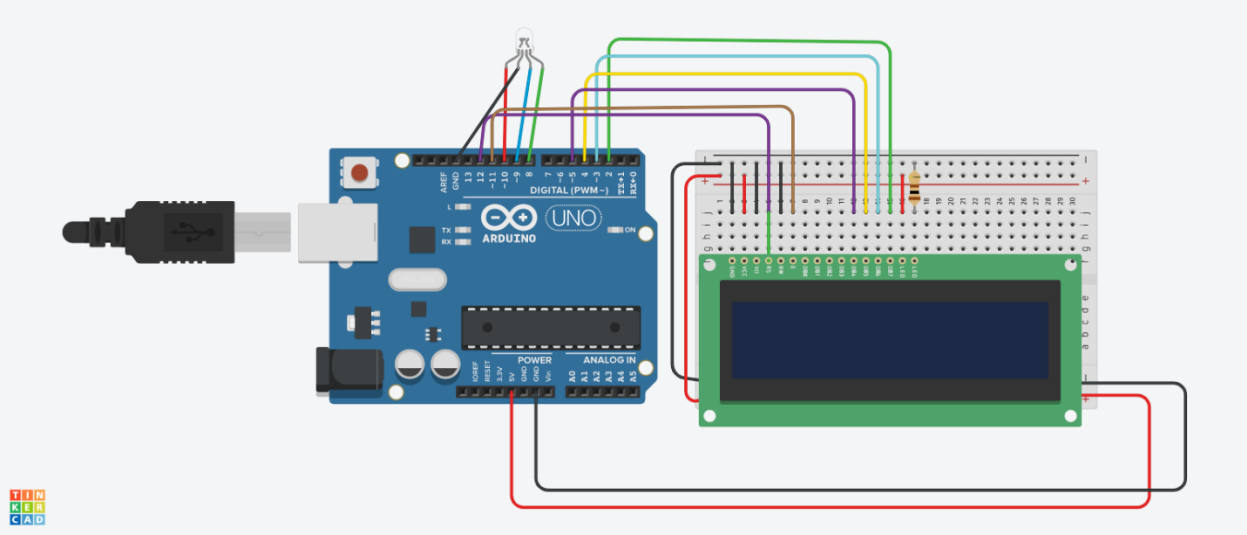
PROGRAM TITLE: RGB LED AND LCD

Aim: DESIGN A DISPLAY SYSTEM TO PRINT RED, BLUE AND GREEN COLORS (RGB LED and LCD)

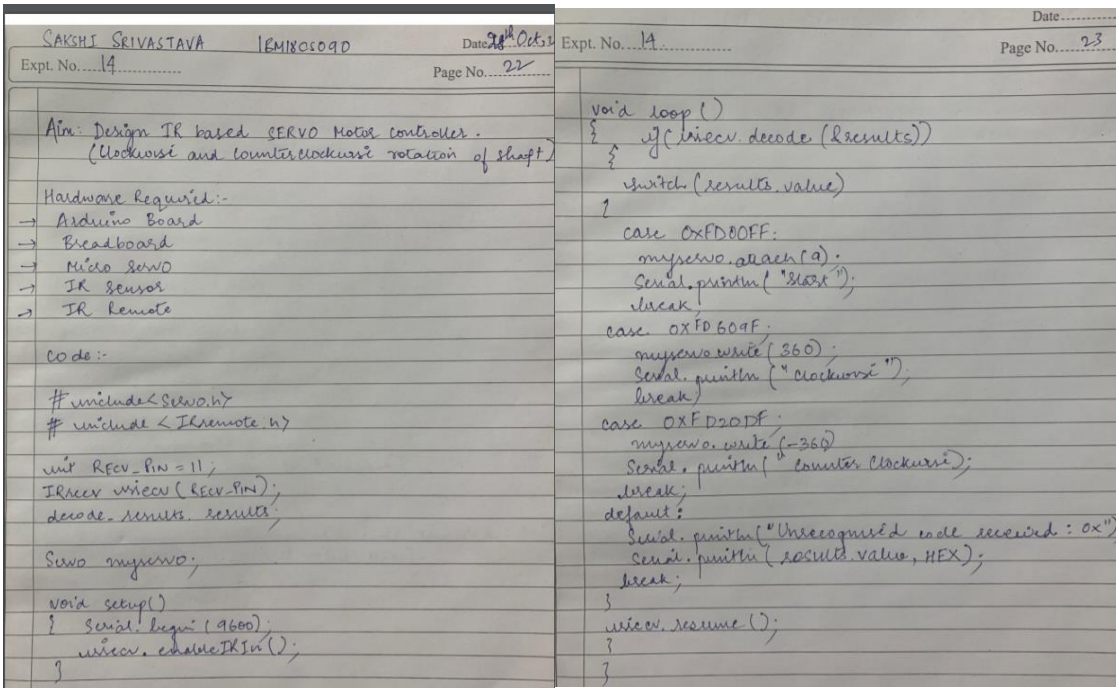
Hardware Required:

- Wires
- LCD
- LED
- Breadboard
- Arduino UNO

Circuit Diagram:



Write-Up:



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Aim: Design IR based SERVO Motor controller.
(Clockwise and counterclockwise rotation of shaft)

Hardware Required:-
→ Arduino Board
→ Breadboard
→ Micro Servo
→ IR Sensor
→ IR Remote

Code:-

```
#include<Servo.h>
#include <IRremote.h>

int RECV_PIN = 11;
IRrecv irrecv(RECV_PIN);
decode_results results;

Servo myservo;

void setup()
{ Serial.begin(9600);
  irrecv.enableIRIn();
}
```

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```
void loop()
{ if(irrecv.decode(&results))
  {
  switch(results.value)
{
  case 0xFD00FF:
    myservo.attach(9);
    Serial.println("Start");
    break;
  case 0xFD609F:
    myservo.write(360);
    Serial.println("clockwise");
    break;
  case 0xFD20DF:
    myservo.write(-360);
    Serial.println("counter clockwise");
    break;
  default:
    Serial.println("Unrecognised code received : 0x");
    Serial.println(results.value, HEX);
    break;
  }
  irrecv.resume();
}
}
```

CODE:

```
#include<LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
//Parameters: (rs, enable, d4, d5, d6, d7)
int red_light_pin= 10;
int green_light_pin = 8;
int blue_light_pin = 9;
void setup() {
  pinMode(red_light_pin, OUTPUT);
  pinMode(green_light_pin, OUTPUT);
  pinMode(blue_light_pin, OUTPUT);
}
void loop() {
  lcd.setCursor(0,0);

  RGB_color(255, 0, 0); // Red
  lcd.print("RED");
```

```
  delay(1000);
  lcd.clear();

  RGB_color(0, 255, 0); // Green
  lcd.print("GREEN");
  delay(1000);
  lcd.clear();

  RGB_color(0, 0, 255); // Blue
  lcd.print("BLUE");
  delay(1000);
  lcd.clear();

  RGB_color(255, 255, 255); // White
  lcd.print("WHITE");
  delay(1000);
  lcd.clear();
}
void RGB_color(int red_light_value, int
green_light_value, int blue_light_value)
 {
  analogWrite(red_light_pin, red_light_value);
  analogWrite(green_light_pin,
green_light_value);
  analogWrite(blue_light_pin, blue_light_value);
}
```

OBSERVATION/OUTPUT

Displays the colour on the LCD.