```
#include <Wire.h>
#include <BH1750.h>
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
BH1750 lightMeter(BH1750::CONTINUOUS_HIGH_RES_MODE_2);
int LDR = A0;
int sw1 = 13;
int sw2 = 10;
int sw3 = 9;
int sw4 = 8;
int Rmotor = 7;
int Lmotor = 6;
float RLDR;
float Vout;
float Lux;
int LDRval = analogRead(LDR);

void setup()
{
  Wire.begin();
  lightMeter.begin();

  pinMode(LDR, INPUT);
  pinMode(sw1, INPUT);
  pinMode(sw2, INPUT);
  pinMode(sw3, INPUT);
  pinMode(sw4, INPUT);
  pinMode(Rmotor, OUTPUT);
  pinMode(Lmotor, OUTPUT);
  lcd.begin(16, 2);
  //lcd.backlight(); only for I2C
  delay(2000);
  lcd.setCursor(1, 0);
  lcd.print("Modul 2 uP & uC");
  lcd.setCursor(1, 1);
  lcd.print("Percobaan 1");
  delay(2000);
  lcd.clear();
}

void loop()
{
  int s1 = digitalRead(sw1);
  int s2 = digitalRead(sw2);
  int s3 = digitalRead(sw3);
  int s4 = digitalRead(sw4);
  if(s1 == HIGH){
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```
    lcd.clear();
    if(s2 == HIGH && s3 == LOW && s4 == LOW){
  int LDRval = analogRead(LDR);
  Vout = (LDRval * 0.0048828125);
RLDR = (10000.0 * (5 - Vout))/Vout;
Lux = (500 / RLDR);

  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("LDR : ");
  lcd.setCursor(0, 1);
  lcd.print("Lux : ");
  lcd.setCursor(10, 0);
  lcd.print(LDRval);
  lcd.setCursor(10, 1);
  lcd.print(Lux);
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(200);
}else if(s2 == LOW && s3 == HIGH && s4 == LOW){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("DC Motor");
  lcd.setCursor(0,1);
  lcd.print("Activated");
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(1500);
  digitalWrite(Rmotor,HIGH);
  digitalWrite(Lmotor,LOW);
  delay(4000);
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(1500);
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,HIGH);
  delay(4000);
}else if(s2 == LOW && s3 == LOW && s4 == HIGH){
  lcd.clear();
  int LDRval = analogRead(LDR);
  float lux = lightMeter.readLightLevel();
  int speed = map(LDRval, 0, 1023, 0, 255);
  analogWrite(Rmotor, speed);
  analogWrite(Lmotor, 0);
  lcd.setCursor(0,0);
  lcd.print("LDR : ");
  lcd.setCursor(10,0);
  lcd.print(LDRval);
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```
  lcd.setCursor(0,1);
  lcd.print("Speed : ");
  lcd.setCursor(10,1);
  lcd.print (speed);
  delay(200);
}else if(s2 == HIGH && s3 == HIGH && s4 == HIGH){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("only 1 switch");
  lcd.setCursor(0,1);
  lcd.print("1 Condition");
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(200);
}else if(s2 == LOW && s3 == LOW && s4 == LOW){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Follow The");
  lcd.setCursor(0,1);
  lcd.print("Instruction");
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(200);
}else if(s2 == HIGH && s3 == LOW && s4 == HIGH){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Choose s2 or s4");
  lcd.setCursor(0,1);
  lcd.print("to set to OFF");
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(200);
}else if(s2 == LOW && s3 == HIGH && s4 == HIGH){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Choose s3 or s4");
  lcd.setCursor(0,1);
  lcd.print("to set to OFF");
  digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  delay(200);
}else if(s2 == HIGH && s3 == HIGH && s4 == LOW){
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Choose s2 or s3");
  lcd.setCursor(0,1);
  lcd.print("to set to OFF");
  digitalWrite(Rmotor,LOW);
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  digitalWrite(Lmotor,LOW);
  delay(200);
}
  }else{
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("ELECTRONIC &");
    lcd.setCursor(0,1);
    lcd.print("INSTRUMENTATION");
    delay(200);
    digitalWrite(Rmotor,LOW);
  digitalWrite(Lmotor,LOW);
  }

  // put your setup code here, to run once:

}


  // put your main code here, to run repeatedly:
```