Tópicos Especiais em Sistemas de Informação

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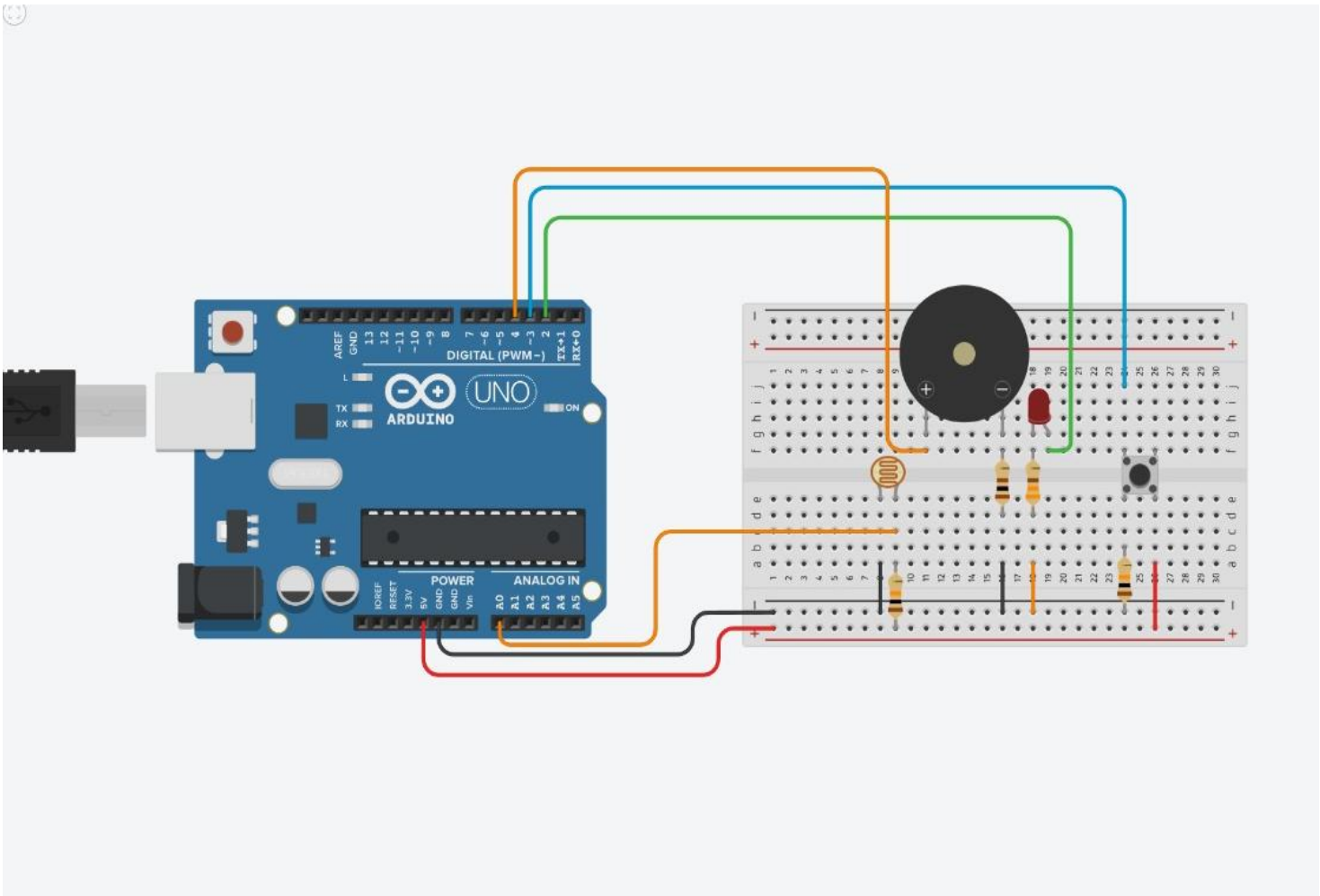
Exercício 1



Código

```
const int buttonPin = 3;
const int ledPin = 2;
const int buzzerPin = 4;
const int ldrPin = A0;

bool alarmActive = false;
bool lastButtonState = HIGH;

void setup() {
  pinMode(buttonPin, INPUT_PULLUP);
  pinMode(ledPin, OUTPUT);
  pinMode(buzzerPin, OUTPUT);
  Serial.begin(9600);
}

void loop() {

  bool buttonState = digitalRead(buttonPin);


  if (buttonState == LOW && lastButtonState == HIGH) {
    alarmActive = !alarmActive;
    delay(300);
  }
  lastButtonState = buttonState;


  digitalWrite(ledPin, alarmActive ? HIGH : LOW);


  int ldrValue = analogRead(ldrPin);
  Serial.println(ldrValue);


  int lightThreshold = 500;


  if (alarmActive) {
    if (ldrValue > lightThreshold) {
      digitalWrite(buzzerPin, HIGH);
    } else {
      digitalWrite(buzzerPin, LOW);
    }
  } else {
    digitalWrite(buzzerPin, LOW);
  }
}
```