Exercício Prático 03

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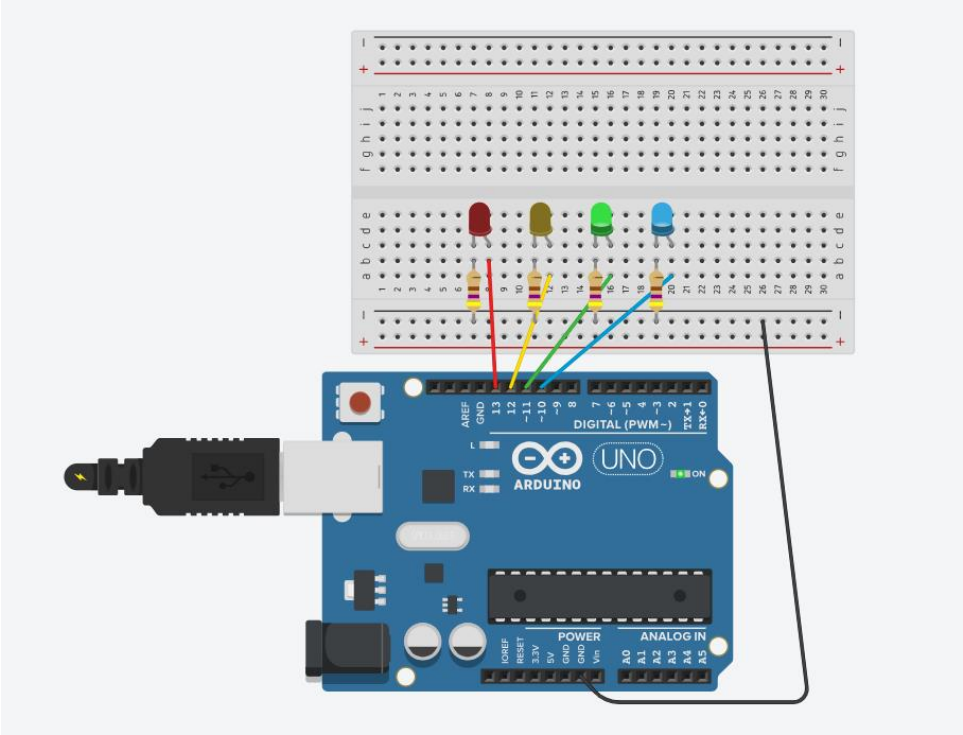
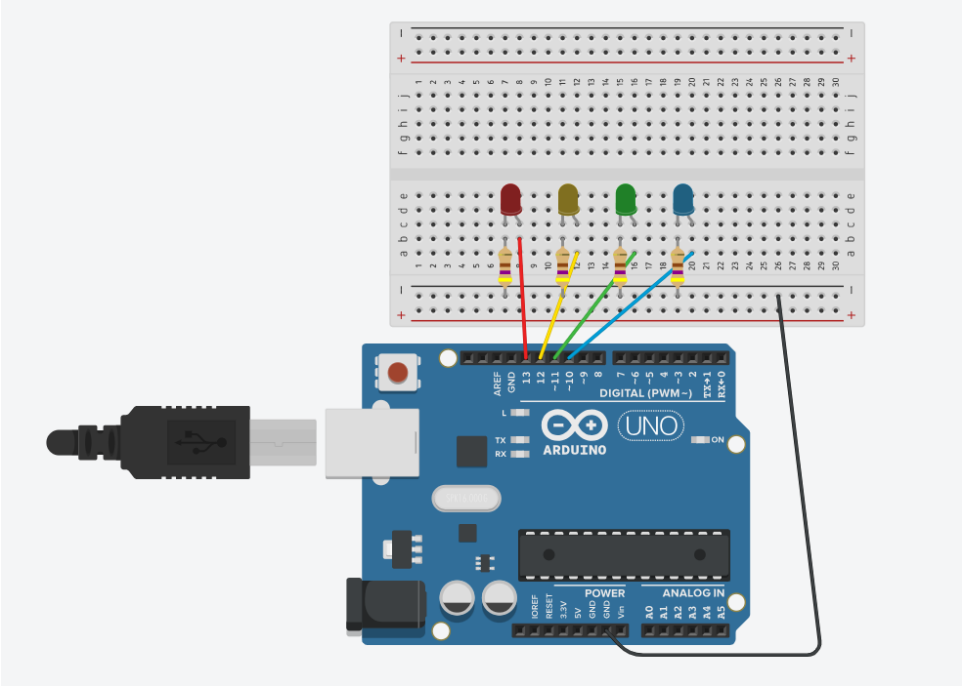
Parte 1:




```
int ledVermelho = 13;
int ledAmarelo = 12;
int ledVerde = 11;
int ledAzul = 10;

void setup() {
    pinMode(ledVermelho, OUTPUT);
    pinMode(ledAmarelo, OUTPUT);
    pinMode(ledVerde, OUTPUT);
    pinMode(ledAzul, OUTPUT);
}

void loop () {
    digitalWrite(ledVermelho, HIGH);

  for (int i= 0; i< 3; i++){
        digitalWrite(ledAzul, HIGH);
        delay(1000);
        digitalWrite (ledAzul, LOW);
        delay(1000);
  }

  digitalWrite(ledVermelho, LOW);
  digitalWrite(ledVerde, HIGH);

  for(int i= 0; i< 4; i++){
        digitalWrite(ledAzul, HIGH);
        delay(1000);
        digitalWrite(ledAzul, LOW);
        delay(1000);
  }

  digitalWrite(ledVerde, LOW);
  digitalWrite(ledAmarelo, HIGH);

  for(int i= 0; i< 2; i++){
        digitalWrite (ledAzul, HIGH);
        delay(1000);
        digitalWrite (ledAzul, LOW);
        delay(1000);
    }

    digitalWrite (ledAmarelo, LOW);
}
```

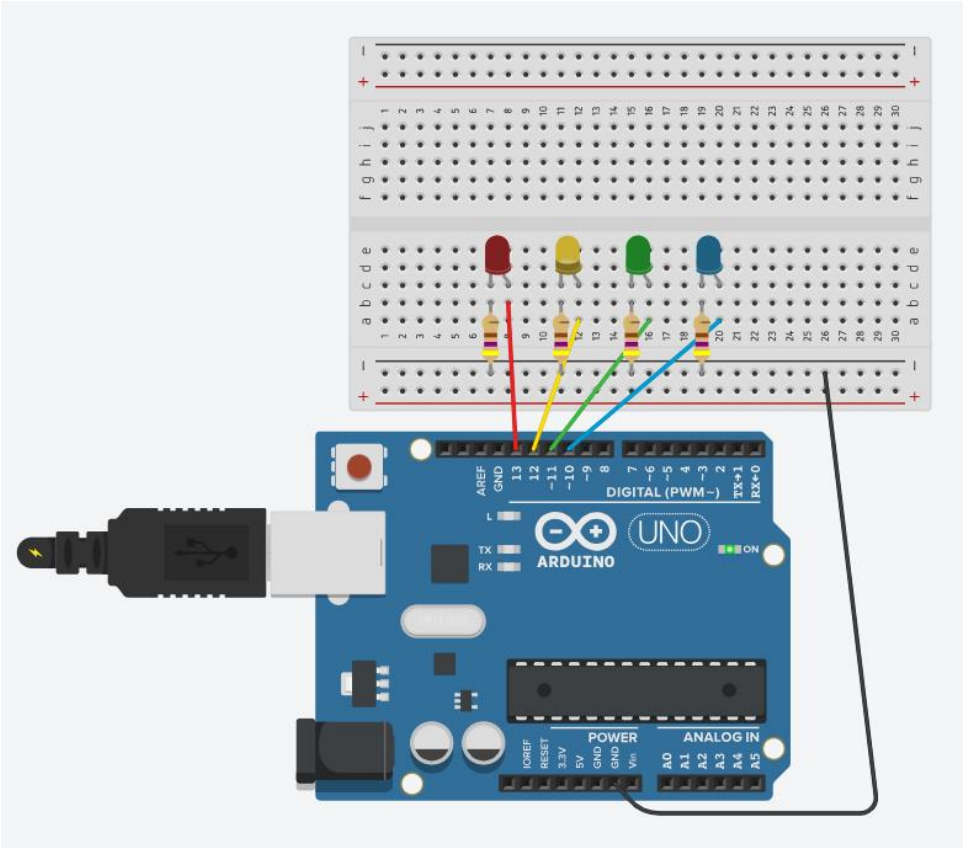
Parte 2:

Instrução realizada	Binário (A,B,Op.code)	Valor em Hexa (0x …)	Resultado em binário
AND(A,B)	0 1 00	0x4	0
OR(A,B)	1 0 01	0x9	1
SOMA(A,B)	1 0 11	0xB	1
NOT(A)	0 0 10	0x2	1
AND(B,A)	0 1 00	0x4	0

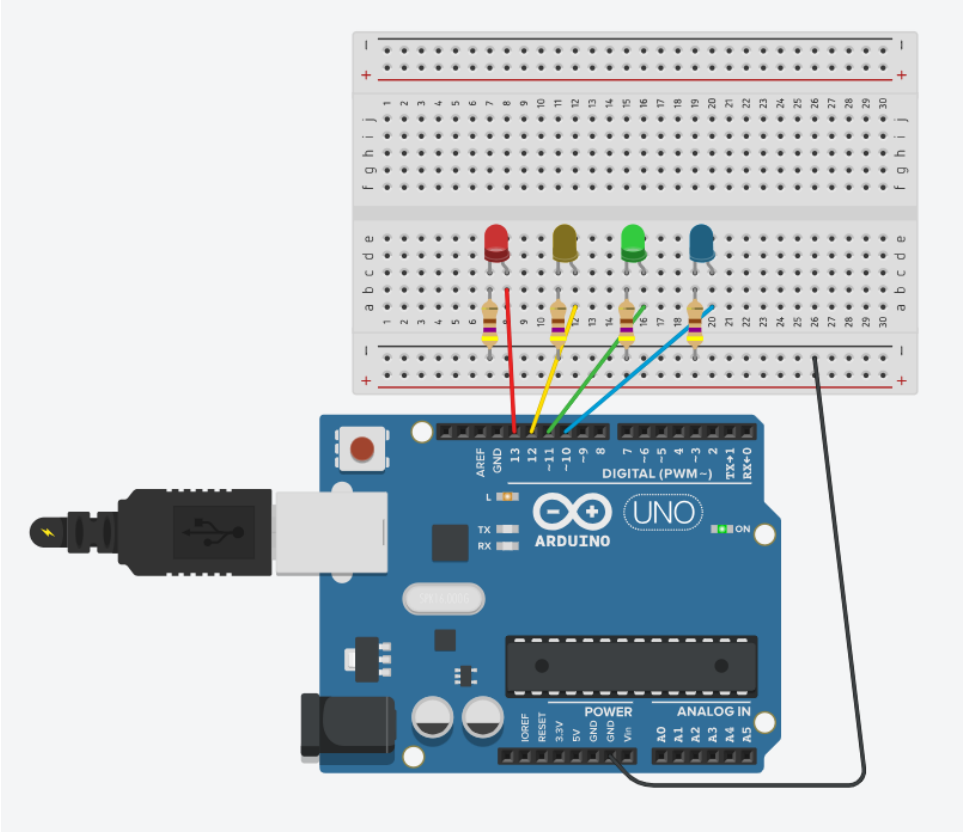



```
int ledVermelho = 13;
int ledAmarelo = 12;
int ledVerde = 11;
int ledAzul = 10;
int a;
int b;
int OPCode;
int resultado;

void setup() {
    Serial.begin(9600);
    pinMode(ledVermelho, OUTPUT);
    pinMode(ledAmarelo, OUTPUT);
    pinMode(ledVerde, OUTPUT);
    pinMode(ledAzul, OUTPUT);
}

void loop() {

  if(Serial.available() > 0){
    a = Serial.parseInt();
    b = Serial.parseInt();
    OPCode = Serial.parseInt();
  }

  mostra(a, b);

  if(OPCode == 0){
    resultado = p_and(a,b);
    if(resultado == 1)
      digitalWrite(ledVerde, HIGH);
  }
  else if(OPCode == 1){
    resultado = p_or(a, b);
    if(resultado == 1)
      digitalWrite(ledVerde, HIGH);
  }
  else if(OPCode == 2){
    resultado = p_not(a);
    if(resultado == 1)
      digitalWrite(ledVerde, HIGH);
  }
  else if(OPCode == 3){
    resultado = soma(a, b);
    if(resultado == 1)
      digitalWrite(ledVerde, HIGH);
    else if(resultado == 2){
        digitalWrite(ledVerde, HIGH);
        digitalWrite(ledAzul, HIGH);
    }
  }

  digitalWrite(ledVermelho, LOW);
  digitalWrite(ledAmarelo, LOW);
  digitalWrite(ledVerde, LOW);
  digitalWrite(ledAzul, LOW);

}

void mostra(int a, int b){
    if(a == 1)
      digitalWrite(ledVermelho, HIGH);
    if(b == 1)
      digitalWrite(ledAmarelo, HIGH);
}

int p_and(int a, int b){
    return(a&b);
}

int p_or(int a, int b){
    return(a|b);
}

int p_not(int a){
    if(a == 0)return 1;
    else return 0;
}

int soma(int a, int b){
    return(a+b);
}
```

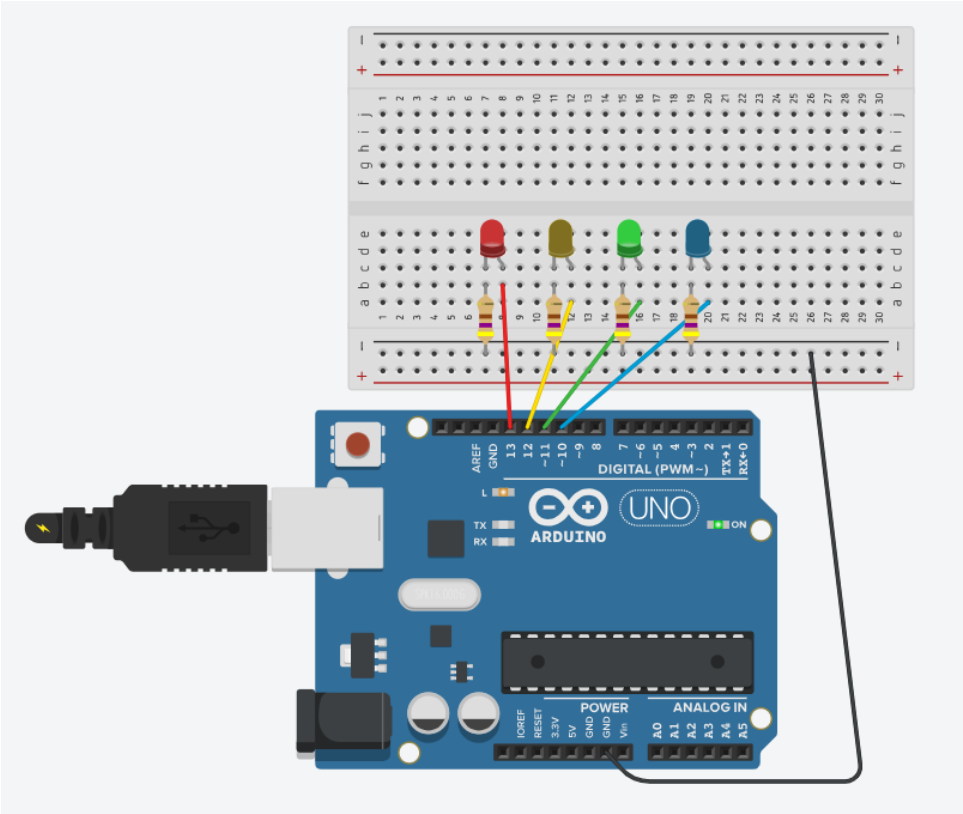
AND(0,1)


DIGITAL (PWM~)
UNO
ARDUINO
POWER
ANALOG IN

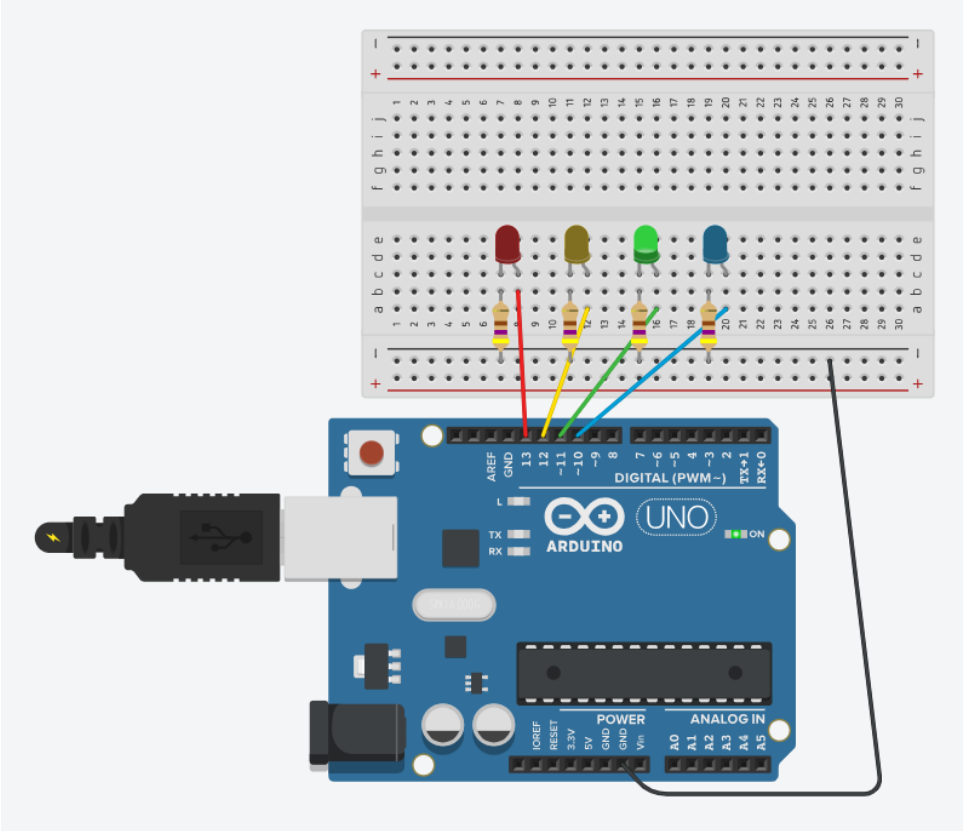
OR(1,0)


DIGITAL (PWM~)
UNO
ARDUINO
POWER
ANALOG IN

SOMA(1,0)



NOT(0,0)



AND(1,0)