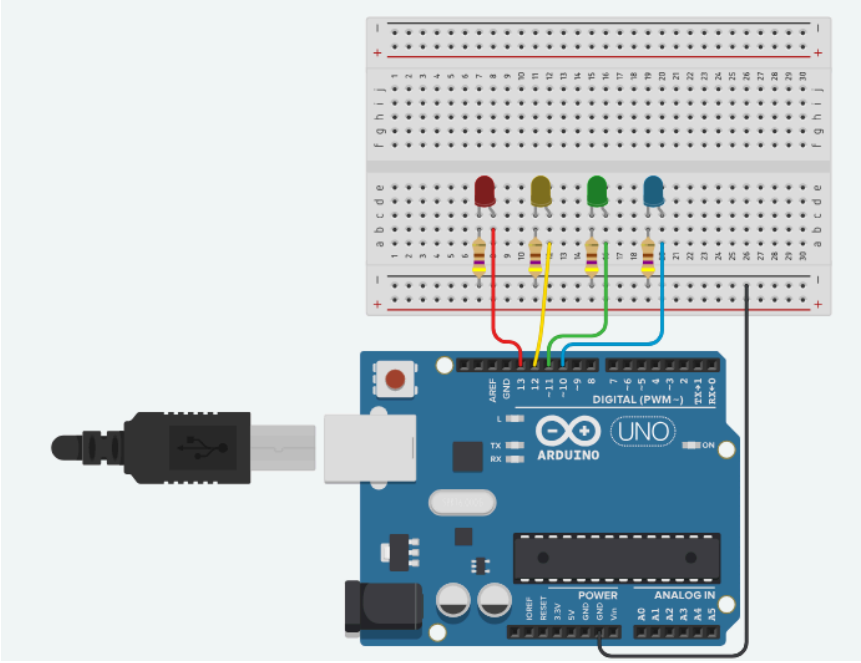
806454 - Yago Almeida Melo
Exercício Prático 02
Professor: Romanelli

Exercício 1)



Código:

```
int azul = 10;
int verde = 11;
int amarelo = 12;
int vermelho = 13;


void setup() {
  Serial.begin(9600);
  pinMode(azul, OUTPUT);
  pinMode(verde, OUTPUT);
  pinMode(amarelo, OUTPUT);
  pinMode(vermelho, OUTPUT);

}

void piscaAzul(){
    digitalWrite(azul, HIGH);
    delay(500);
    digitalWrite(azul, LOW);
    delay(500);
}
```

```
void loop() {
    int count = 0;
    while(count<3){
        digitalWrite(vermelho, HIGH);
        digitalWrite(amarelo, LOW);
        digitalWrite(verde, LOW);
        piscaAzul();
        count++;
    }
    count = 0;
    while(count<4){
        digitalWrite(vermelho, LOW);
        digitalWrite(amarelo, LOW);
        digitalWrite(verde, HIGH);
        piscaAzul();
        count++;
    }
    count = 0;
    while(count<2){
        digitalWrite(vermelho, LOW);
        digitalWrite(amarelo, HIGH);
        digitalWrite(verde, LOW);
        piscaAzul();
        count++;
    }
}
```

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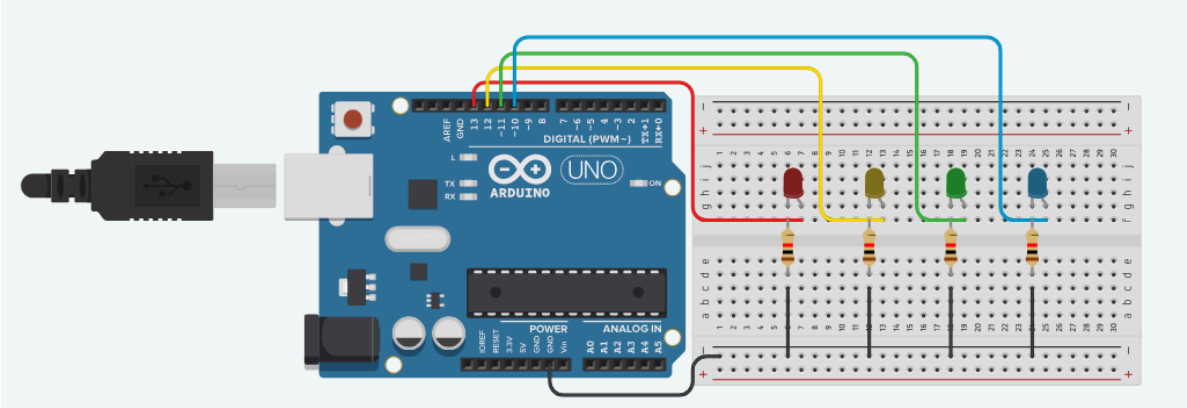
Exercício 2)



Código:

```
int ledA = 13;
int ledB = 12;
int ledSaida = 11;
int ledVai1 = 10;

void setup() {
  pinMode(ledA, OUTPUT);
  pinMode(ledB, OUTPUT);
  pinMode(ledSaida, OUTPUT);
  pinMode(ledVai1, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  if (Serial.available() >= 3) {

    char aChar = Serial.read();
    char bChar = Serial.read();
    char opChar = Serial.read();

    // Converte os caracteres para inteiros
    int a = aChar - '0';
    int b = bChar - '0';
    int op = opChar - '0';

    int saida = 0;
    int vai1 = 0;

    switch (op) {
      case 0: // AND (a.b)
        saida = a & b;
        vai1 = 0;
        break;
      case 1: // OR (a | b)
        saida = a | b;
        vai1 = 0;
        break;
      case 2: // NOT a
        saida = !a;
        vai1 = 0;
        break;
      case 3: // Soma (a + b)
        saida = a ^ b;
        vai1 = a & b;
        break;
      default:
        // OP Code inválido
        saida = 0;
        vai1 = 0;
        break;
    }

    digitalWrite(ledA, a);
    digitalWrite(ledB, b);
    digitalWrite(ledSaida, saida);
    digitalWrite(ledVai1, vai1);
  }
}
```

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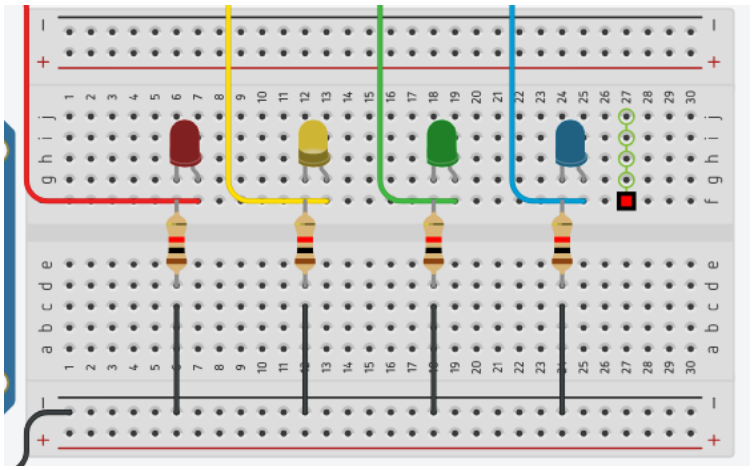
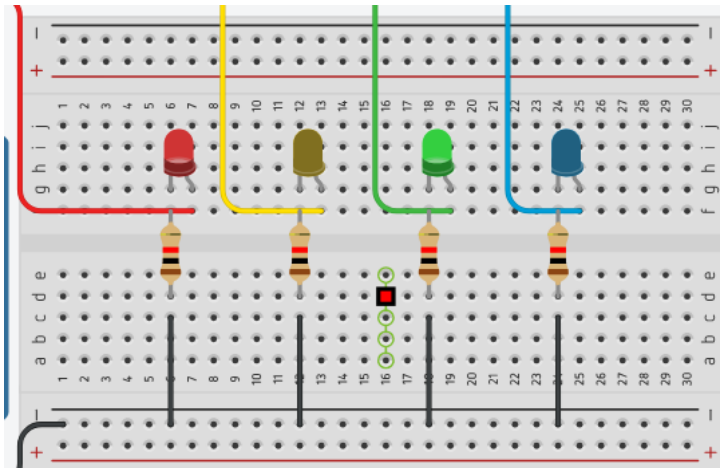
Instrução realizada	Binário (A,B,Op.code)	Valor em Hexa (0x …)	Resultado em binário
AND(A,B)	0 1 00	0x4	0
OR(A,B)	1 0 01	0x9	1
SOMA(A,B)	1 0 11	0xB	1
NOT(A)	0 0 10	0x2	1
AND(B,A)	0 1 00	0x4	0

1) **010:**



2) **101:**



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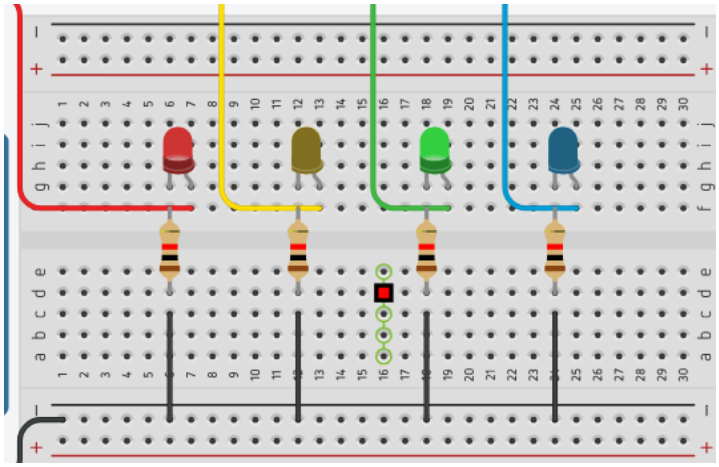
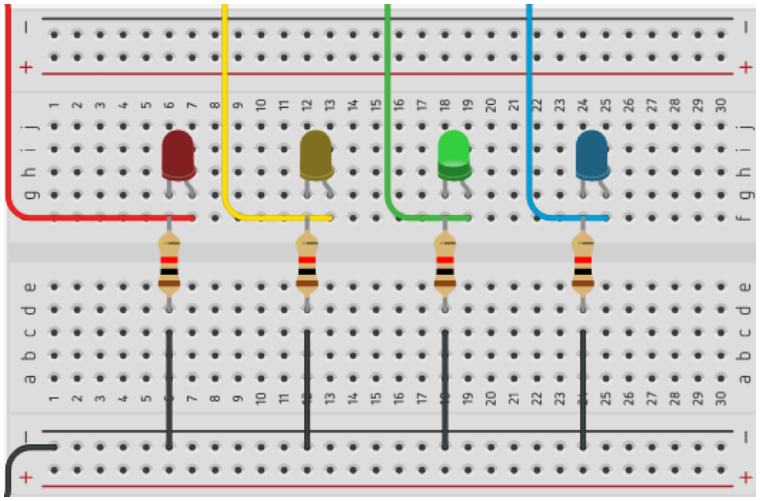
3) **103:**



4) **002:**



5) **110:**

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