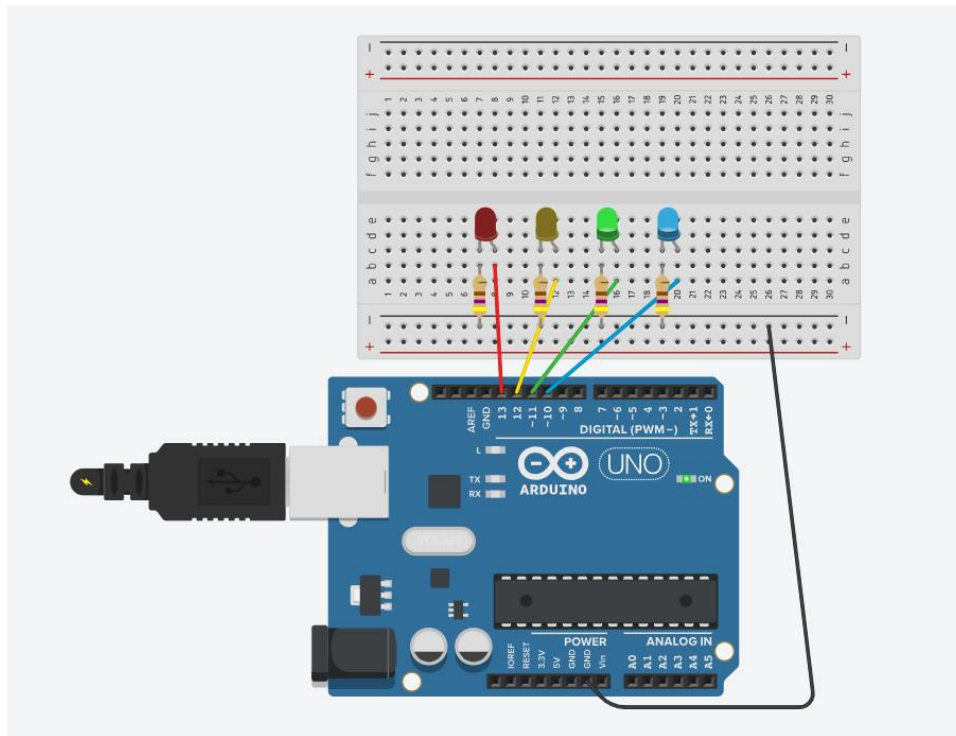


## Exercício Prático 03

**Grupo:** Ana Fernanda Souza Cancado

Arthur de Sá Braz de Matos

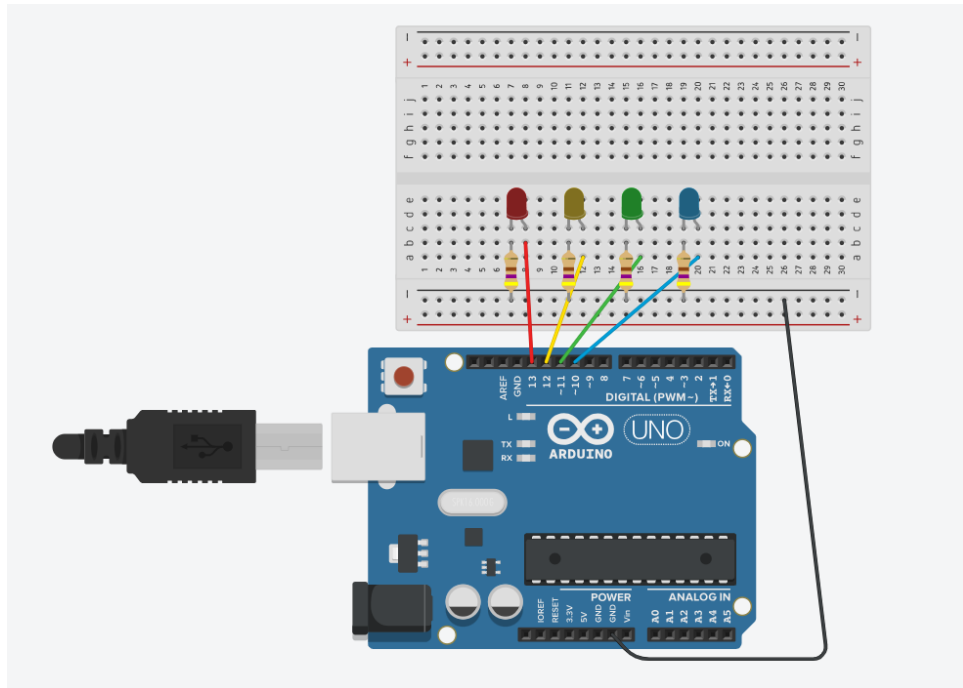
### Parte 1:



```
1 int ledVermelho = 13;
2 int ledAmarelo = 12;
3 int ledVerde = 11;
4 int ledAzul = 10;
5
6 void setup() {
7   pinMode(ledVermelho, OUTPUT);
8   pinMode(ledAmarelo, OUTPUT);
9   pinMode(ledVerde, OUTPUT);
10  pinMode(ledAzul, OUTPUT);
11 }
12
13 void loop () {
14   digitalWrite(ledVermelho, HIGH);
15
16   for (int i= 0; i< 3; i++){
17     digitalWrite(ledAzul, HIGH);
18     delay(1000);
19     digitalWrite (ledAzul, LOW);
20     delay(1000);
21   }
22
23   digitalWrite(ledVermelho, LOW);
24   digitalWrite(ledVerde, HIGH);
25
26   for(int i= 0; i< 4; i++){
27     digitalWrite(ledAzul, HIGH);
28     delay(1000);
29     digitalWrite(ledAzul, LOW);
30     delay(1000);
31   }
32
33   digitalWrite(ledVerde, LOW);
34   digitalWrite(ledAmarelo, HIGH);
35
36   for(int i= 0; i< 2; i++){
37     digitalWrite (ledAzul, HIGH);
38     delay(1000);
39     digitalWrite (ledAzul, LOW);
40     delay(1000);
41   }
42
43   digitalWrite (ledAmarelo, LOW);
44 }
```

## 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

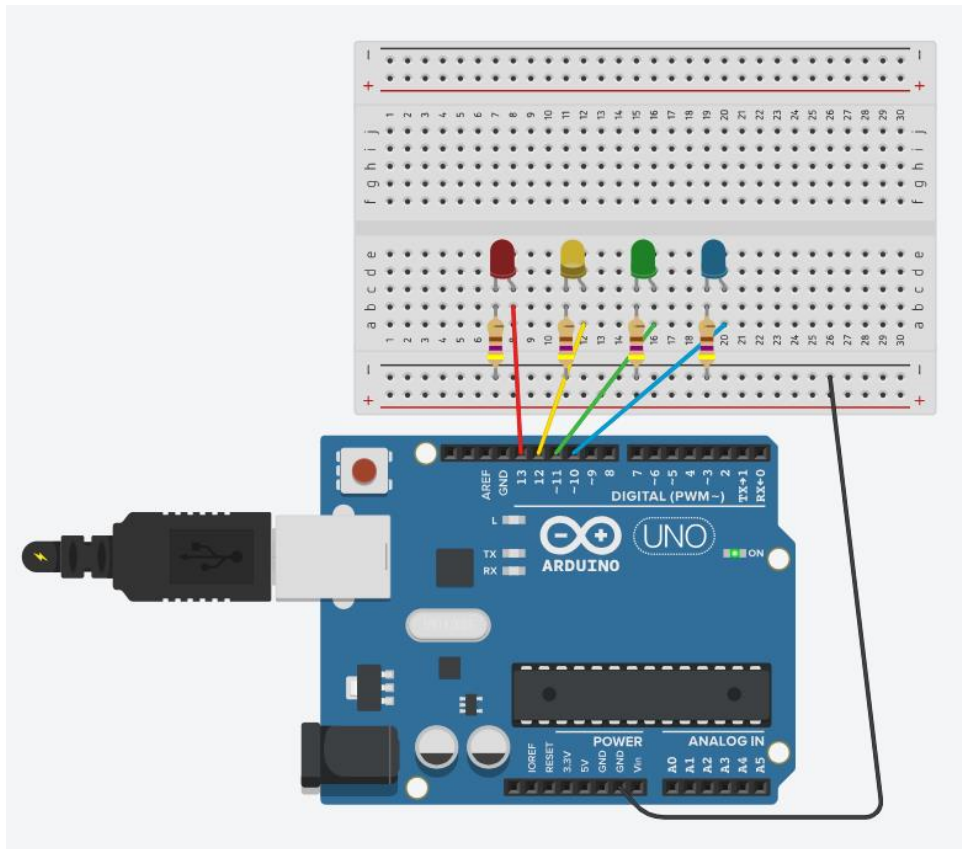


```

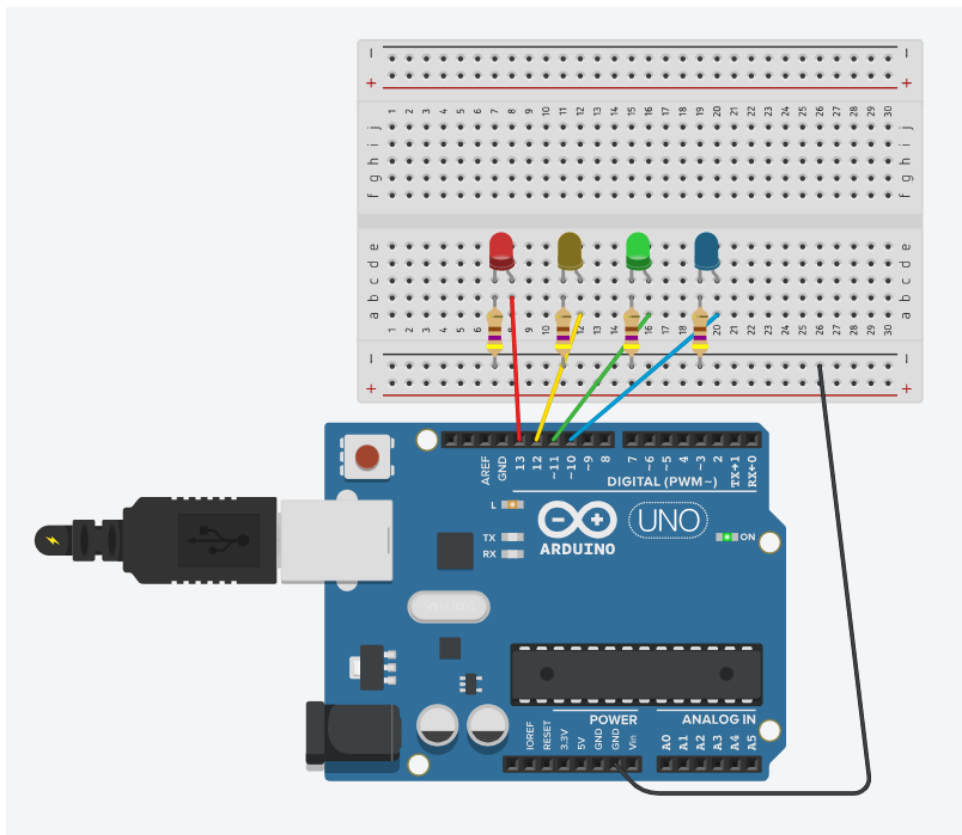
1  int ledVermelho = 13;
2  int ledAmarelo = 12;
3  int ledVerde = 11;
4  int ledAzul = 10;
5  int a;
6  int b;
7  int OPCode;
8  int resultado;
9
10 void setup() {
11     Serial.begin(9600);
12     pinMode(ledVermelho, OUTPUT);
13     pinMode(ledAmarelo, OUTPUT);
14     pinMode(ledVerde, OUTPUT);
15     pinMode(ledAzul, OUTPUT);
16 }
17
18 void loop() {
19     if(Serial.available() > 0){
20         a = Serial.parseInt();
21         b = Serial.parseInt();
22         OPCode = Serial.parseInt();
23     }
24     mostra(a, b);
25
26     if(OPCode == 0){
27         resultado = p_and(a,b);
28         if(resultado == 1)
29             digitalWrite(ledVerde, HIGH);
30     }
31     else if(OPCode == 1){
32         resultado = p_or(a, b);
33         if(resultado == 1)
34             digitalWrite(ledVerde, HIGH);
35     }
36     else if(OPCode == 2){
37         resultado = p_not(a);
38         if(resultado == 1)
39             digitalWrite(ledVerde, HIGH);
40     }
41 }
42
43     else if(OPCode == 3){
44         resultado = soma(a, b);
45         if(resultado == 1)
46             digitalWrite(ledVerde, HIGH);
47         else if(resultado == 2){
48             digitalWrite(ledVerde, HIGH);
49             digitalWrite(ledAzul, HIGH);
50         }
51     }
52 }
53 digitalWrite(ledVermelho, LOW);
54 digitalWrite(ledAmarelo, LOW);
55 digitalWrite(ledVerde, LOW);
56 digitalWrite(ledAzul, LOW);
57 }
58
59 void mostra(int a, int b){
60     if(a == 1)
61         digitalWrite(ledVermelho, HIGH);
62     if(b == 1)
63         digitalWrite(ledAmarelo, HIGH);
64 }
65
66
67 int p_and(int a, int b){
68     return(a&b);
69 }
70
71 int p_or(int a, int b){
72     return(a|b);
73 }
74
75 int p_not(int a){
76     if(a == 0) return 1;
77     else return 0;
78 }
79
80 int soma(int a, int b){
81     return(a+b);
82 }

```

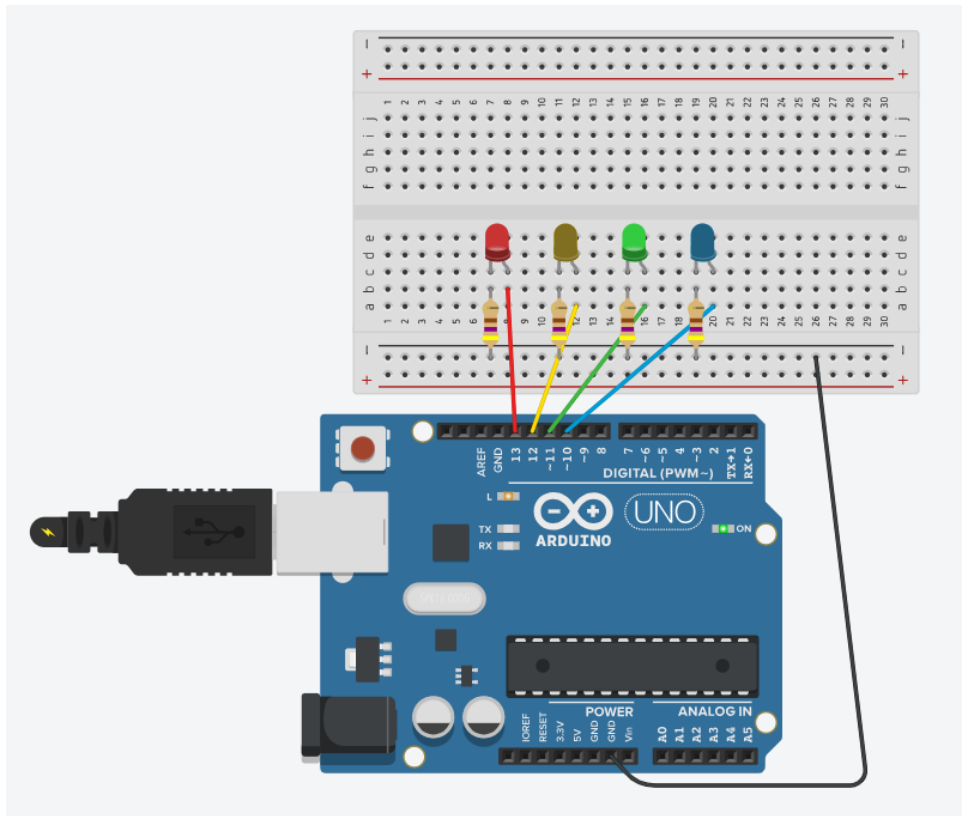
AND(0,1)



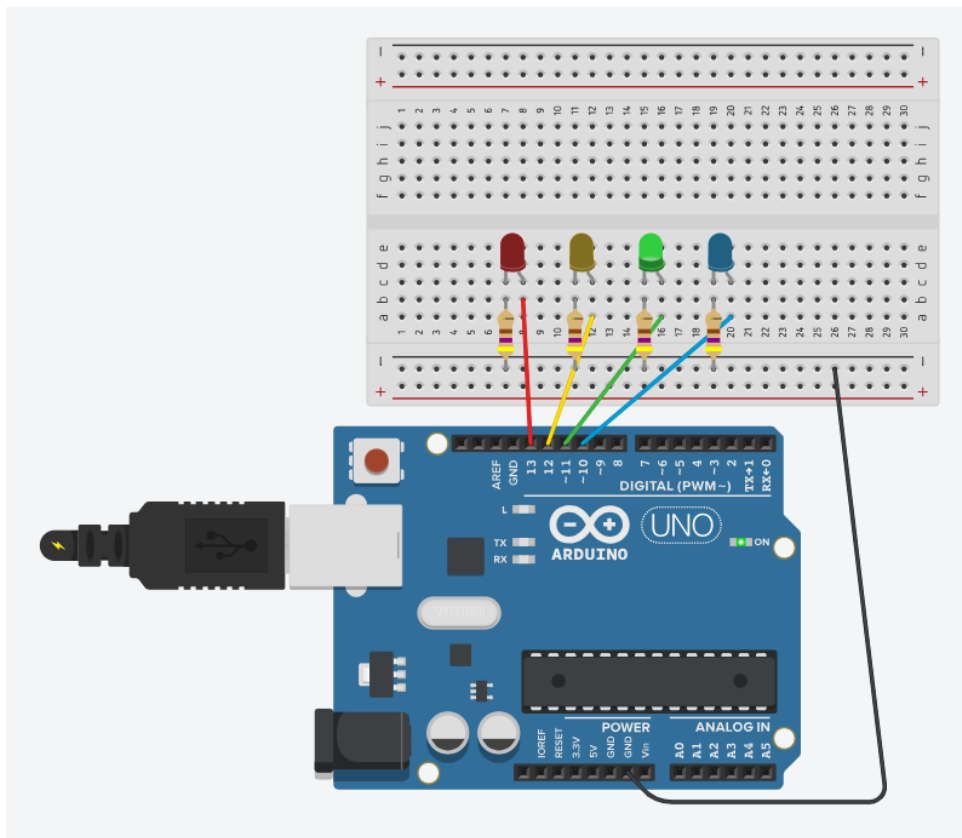
OR(1,0)



SOMA(1,0)



NOT(0,0)



AND(1,0)

