**PONTIFÍCIA UNIVERSIDADE CATÓLICA DE MINAS GERAIS**

**Bacharelado em Ciência da Computação**

Trabalho Prático 1

Bruno Henrique da Silva Brum

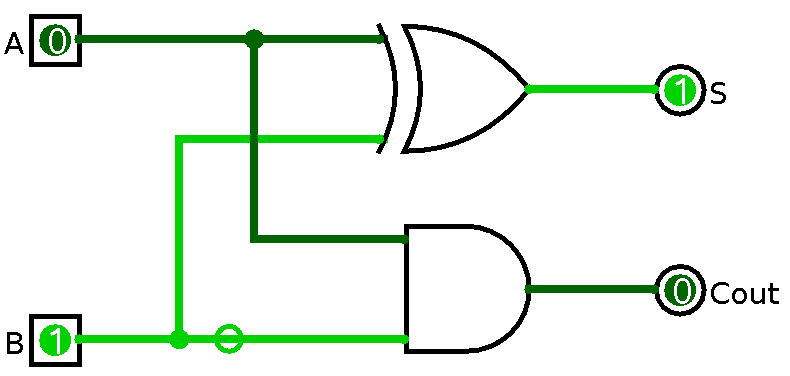
Belo Horizonte

2.2022

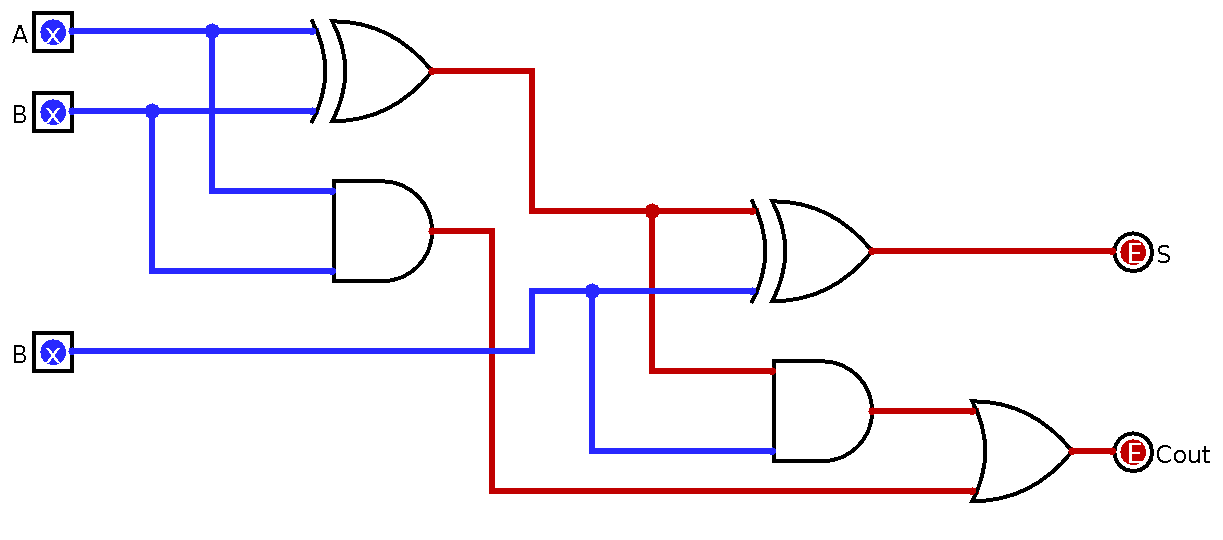
**Logisim**

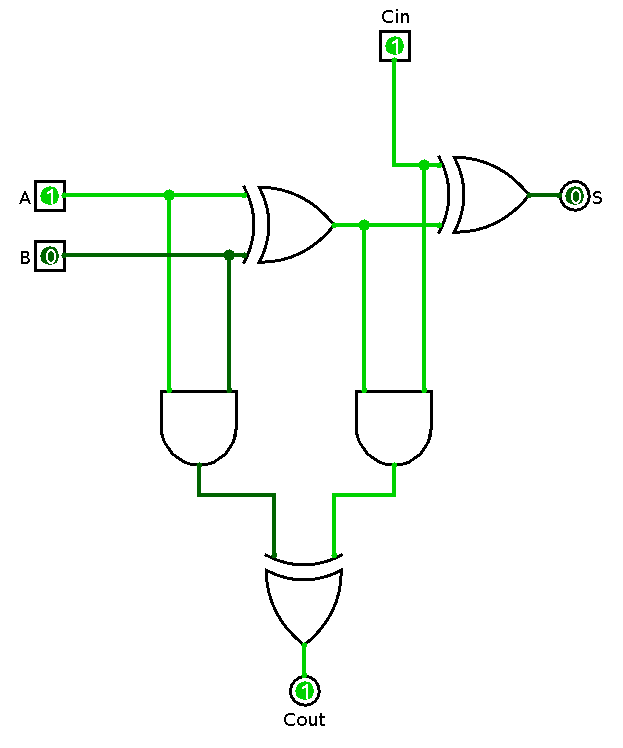
Para o Logisim, temos os circuitos:

Meio Somador

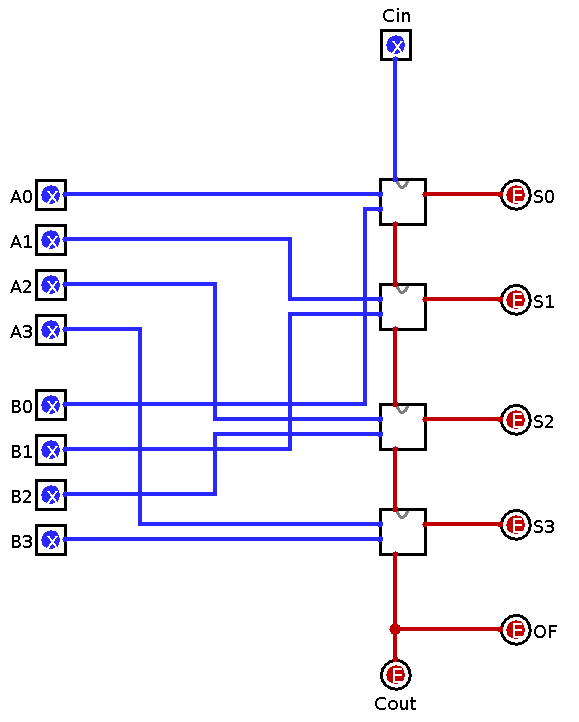


Somador completo



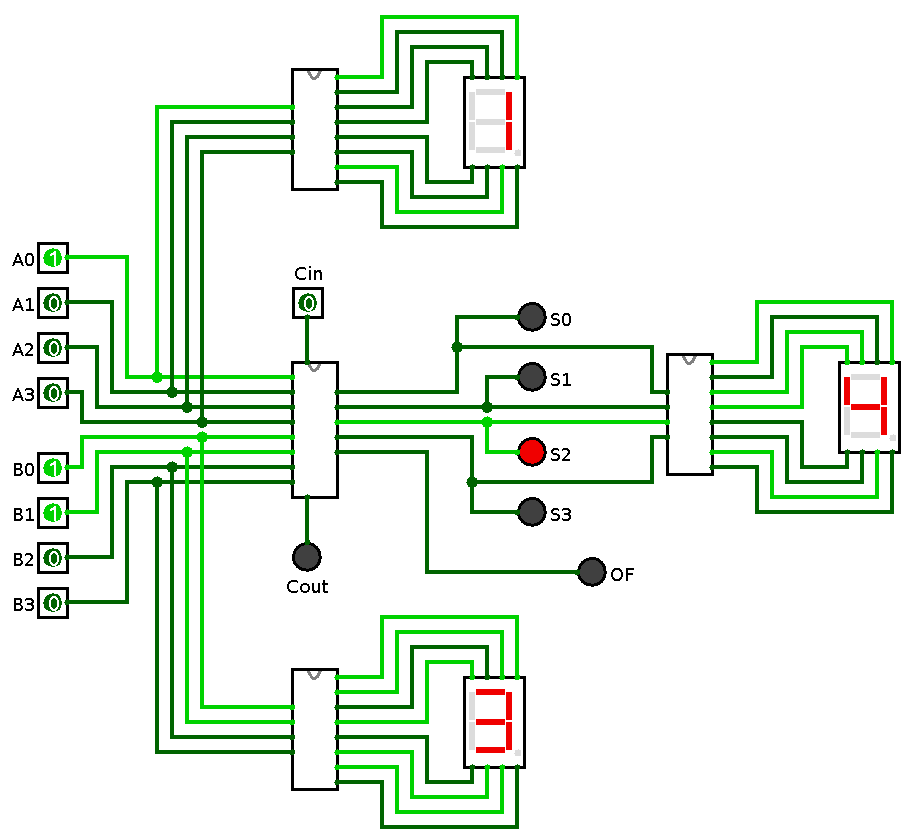
Ou... 

Somador de 4 bits



Calculadora

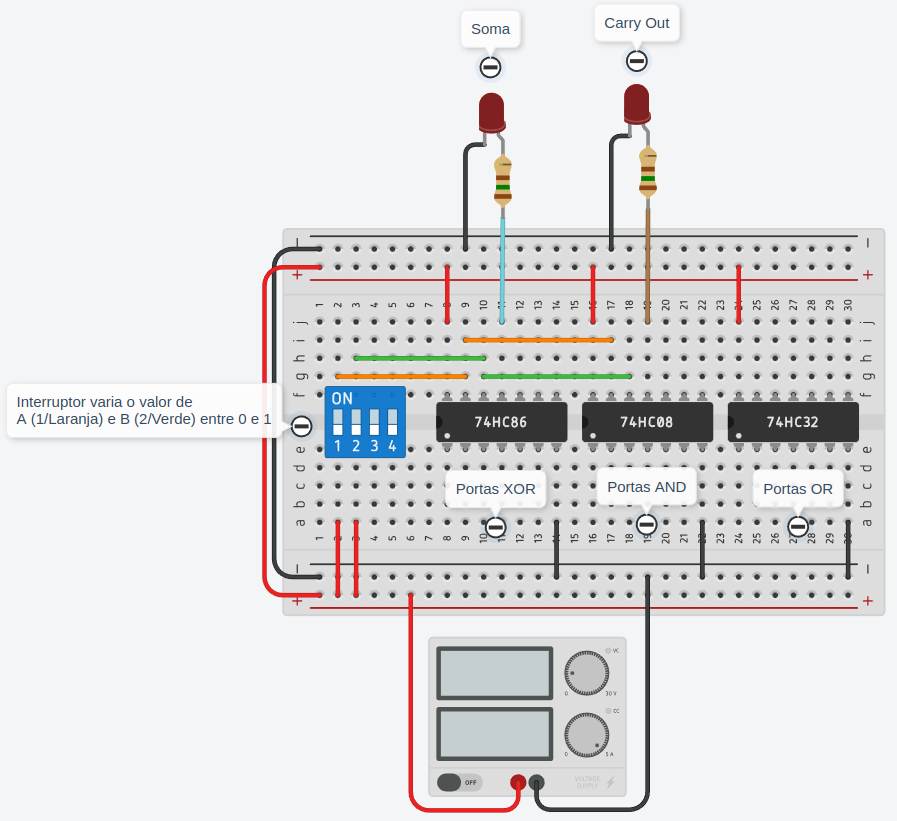
Matricula: 536013

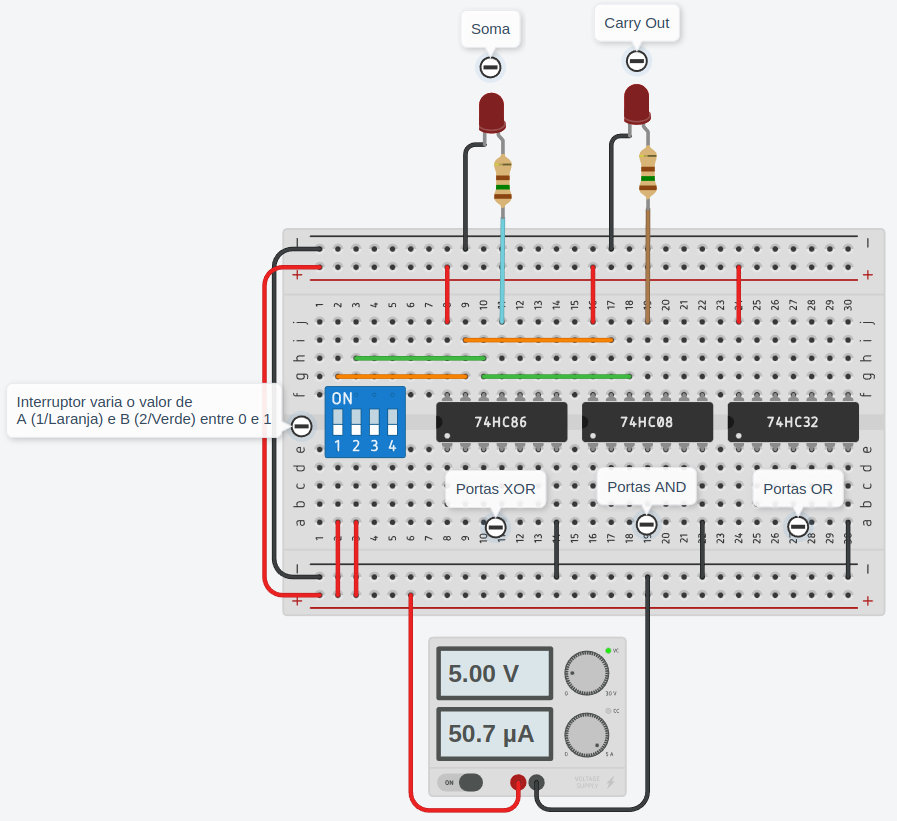


**TinkerCad**

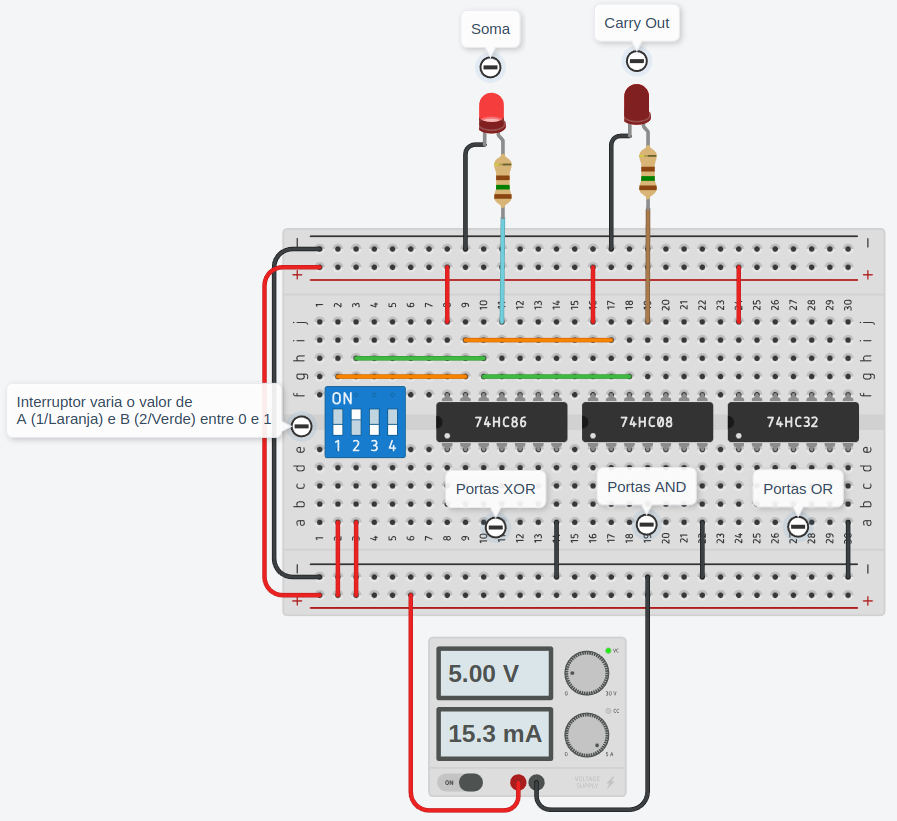
Para a parte do TinkerCad, era necessário encontrar um chip que contivesse as portas logicas XOR, AND e OR. Entretanto não encontrei um chip que realizasse as 3 operações. Por isso, uni 3 chips (cada um com 4 entradas para uma porta logica) para simular um meio somador.

*Como as imagens são grandes, vou colocar cada item da tabela verdade em uma página.*

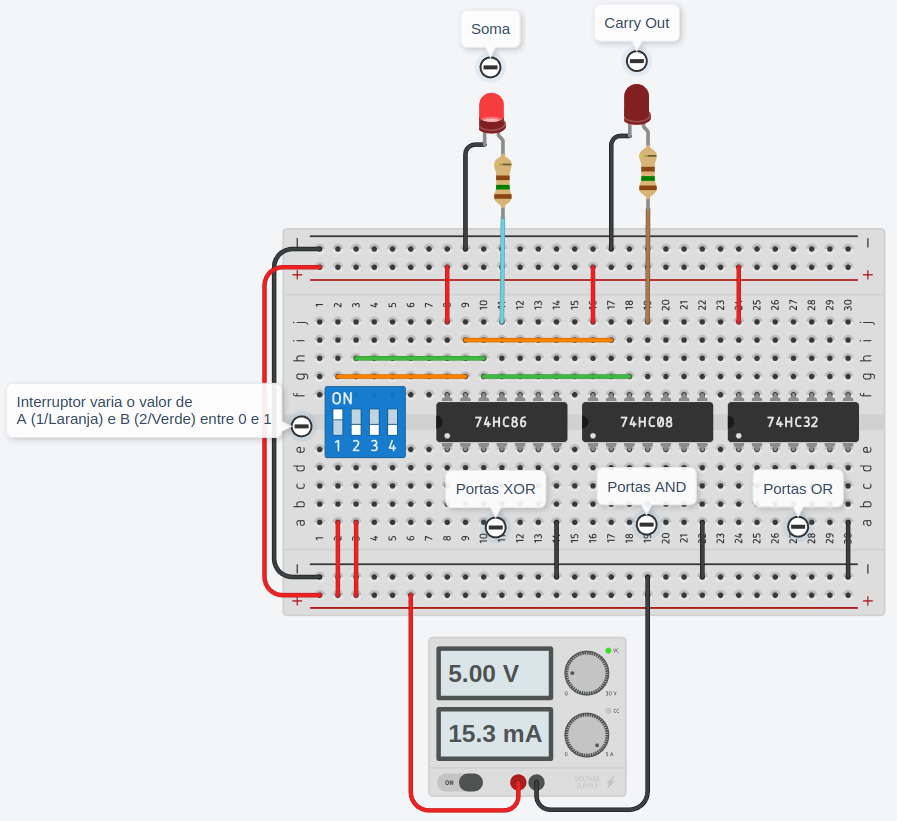
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**A = 0 B = 0**

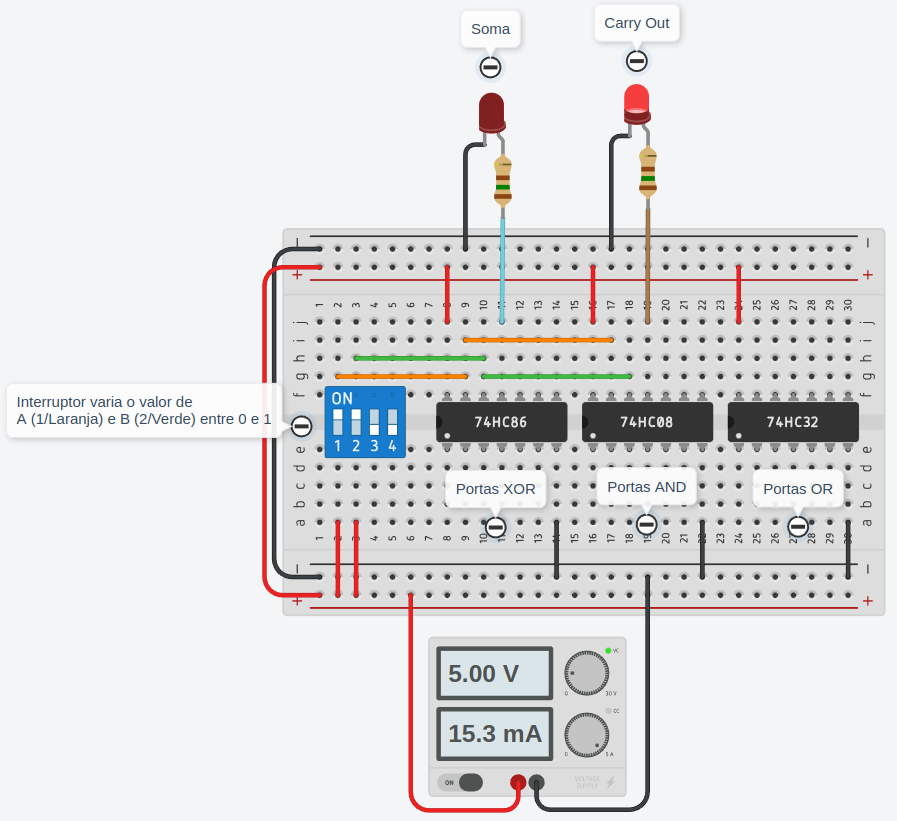
**A = 0 B = 1**

****

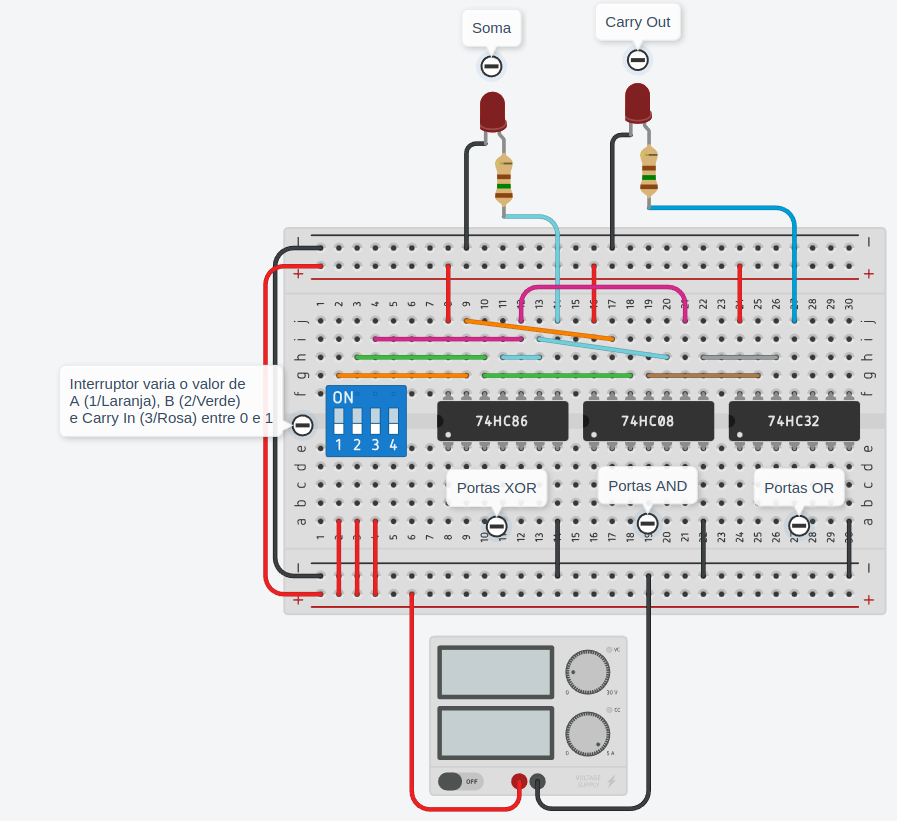
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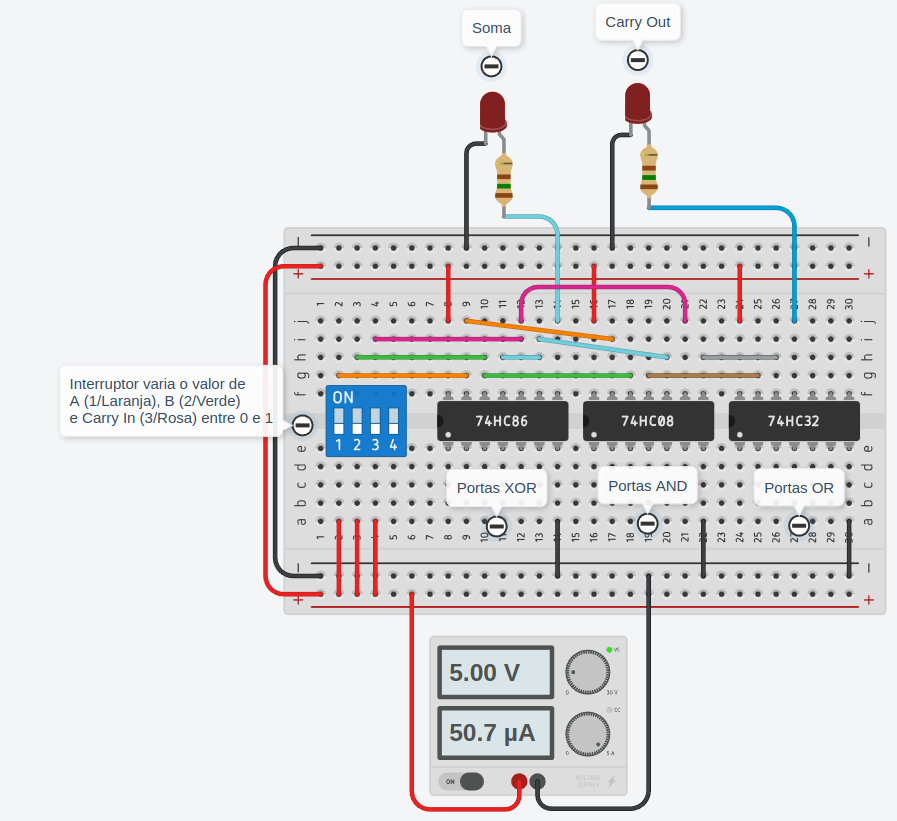
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**A = 1 B = 1**

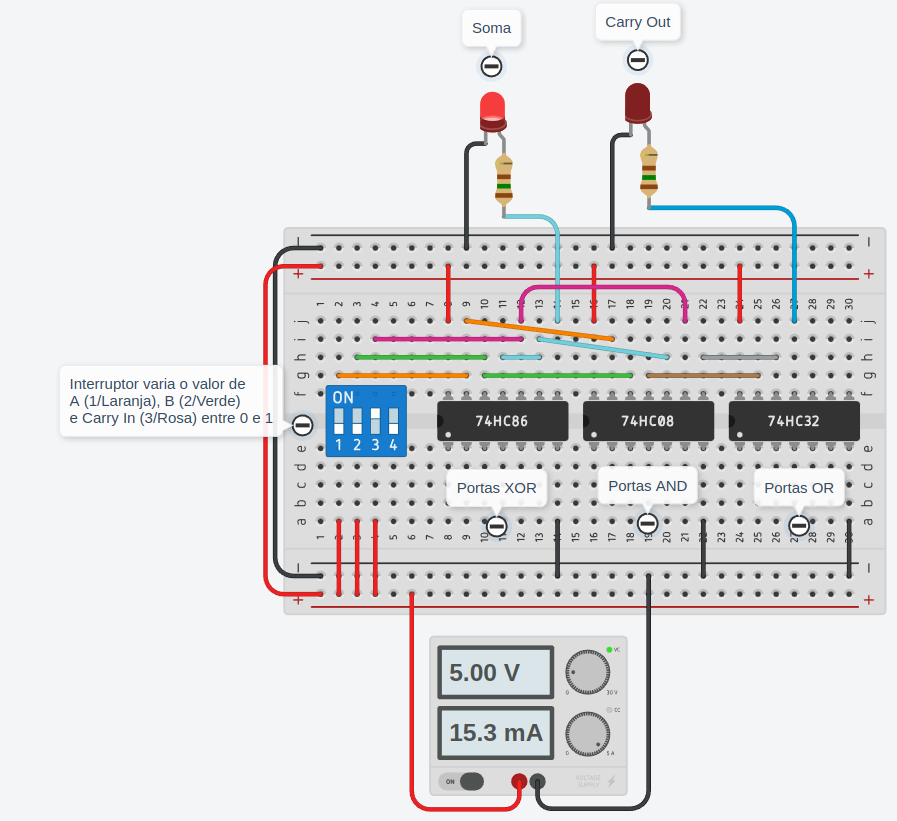
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Para o somador completo, teremos:

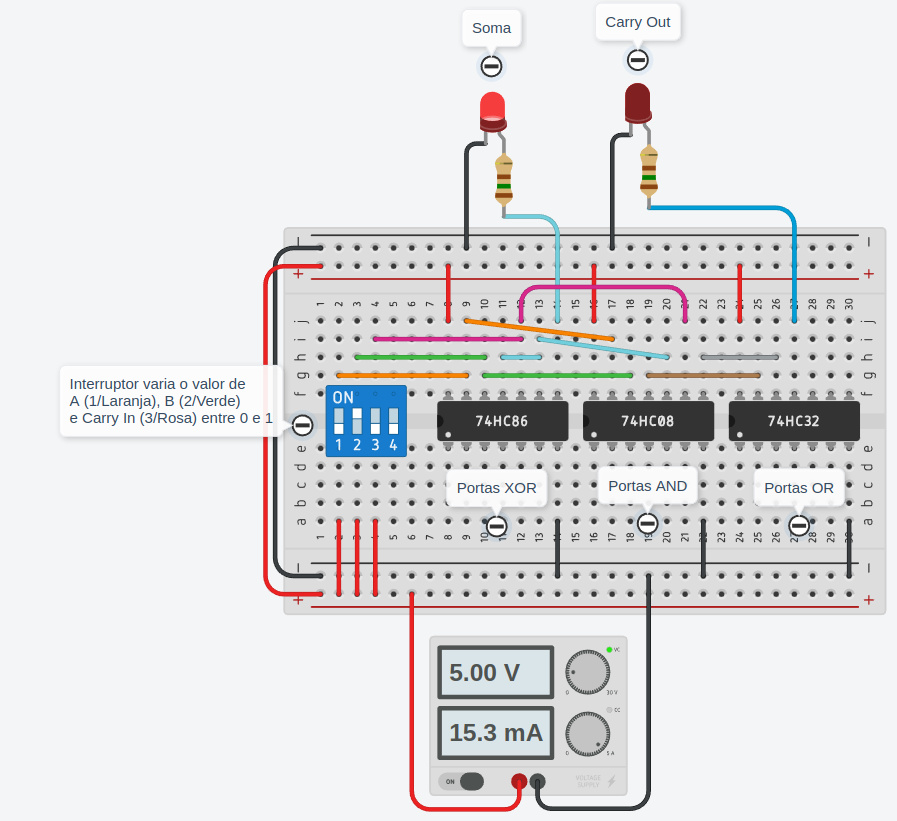
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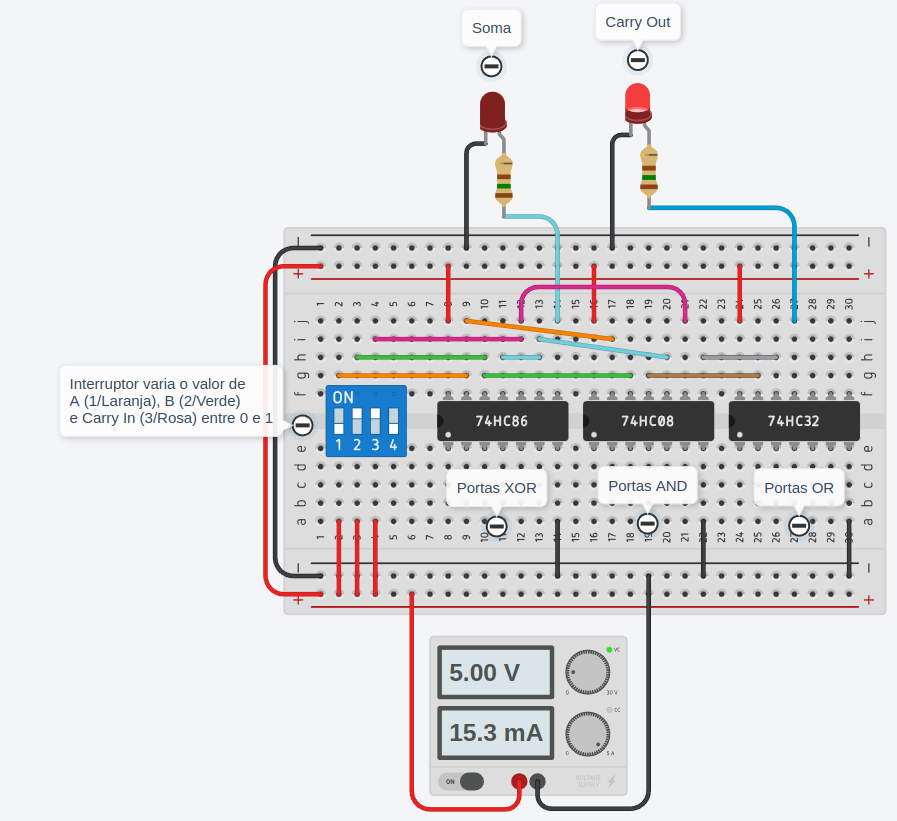
**A = 0 B = 0 Carry in = 0**

**A = 0 B = 0 Carry in = 1**

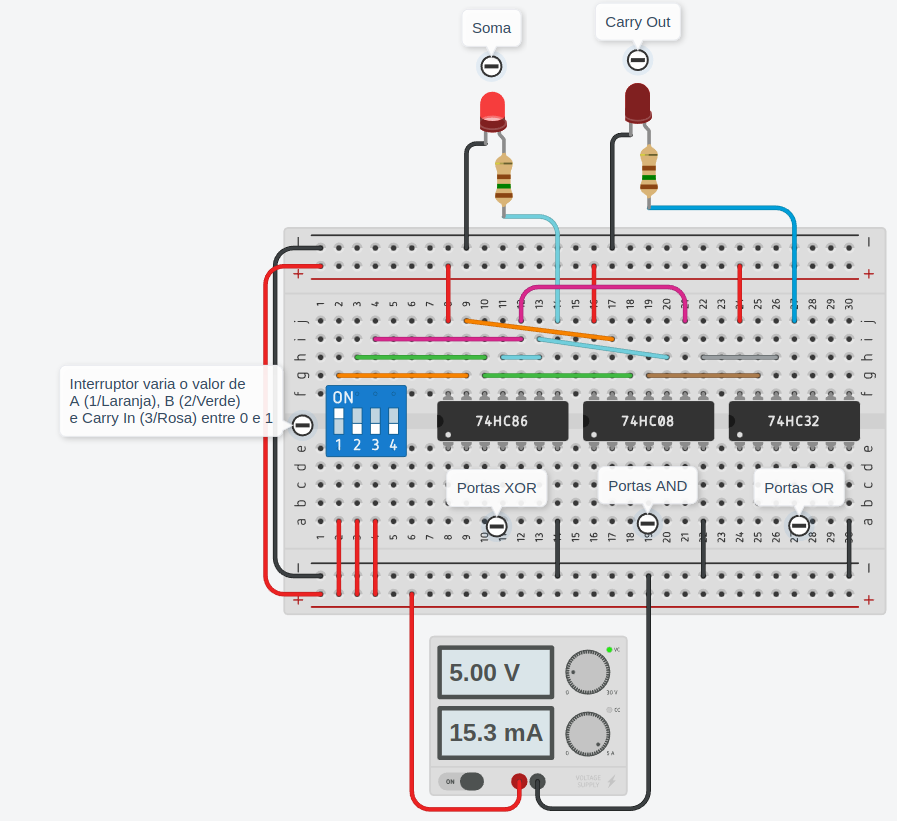
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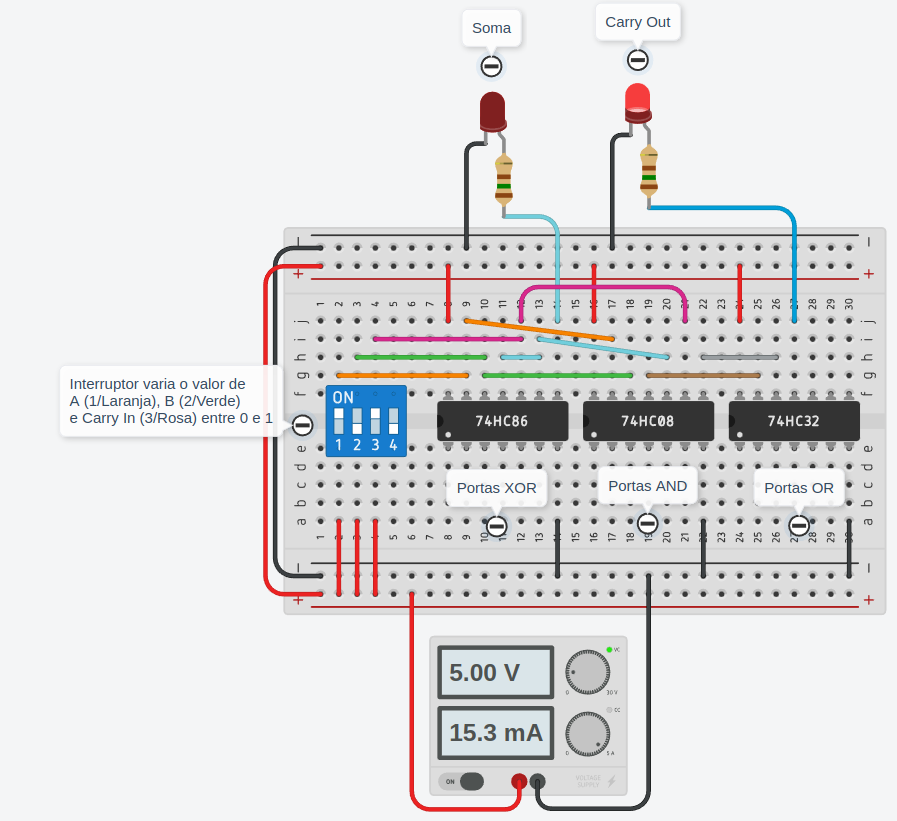
**A = 0 B = 1 Carry in = 0**

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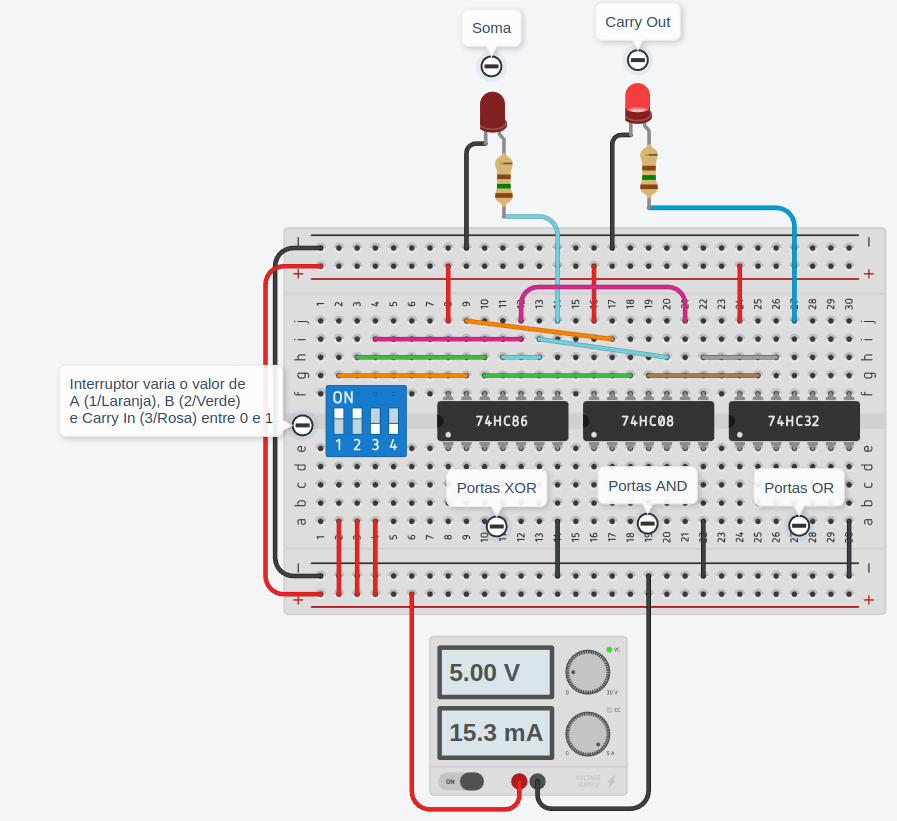
**A = 0 B = 1 Carry in = 1**

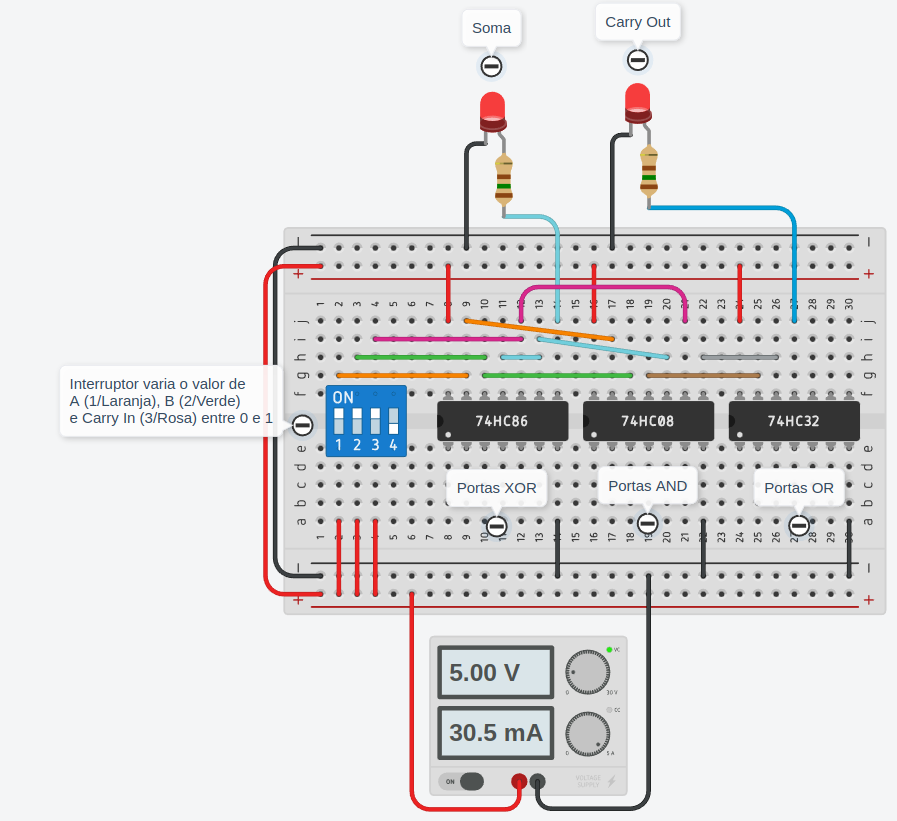
**A = 1 B = 0 Carry in = 0**

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**A = 1 B = 0 Carry in = 1**

**A = 1 B = 1 Carry in = 0**

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**A = 1 B = 1 Carry in = 1**