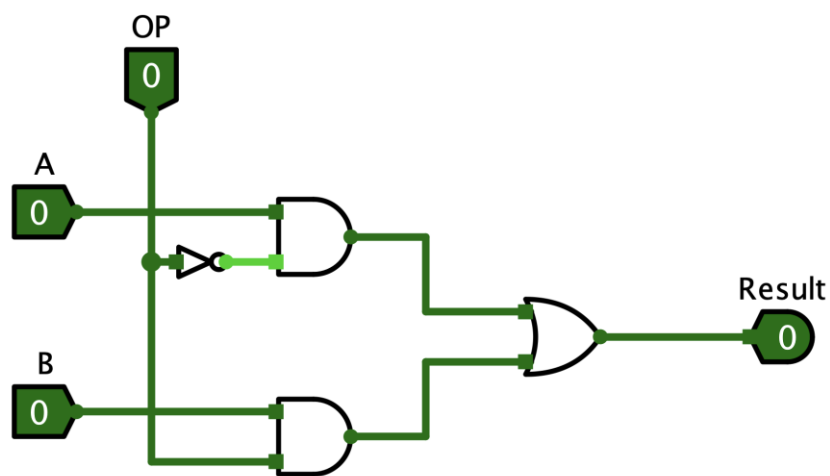


Exercício Prático 2:

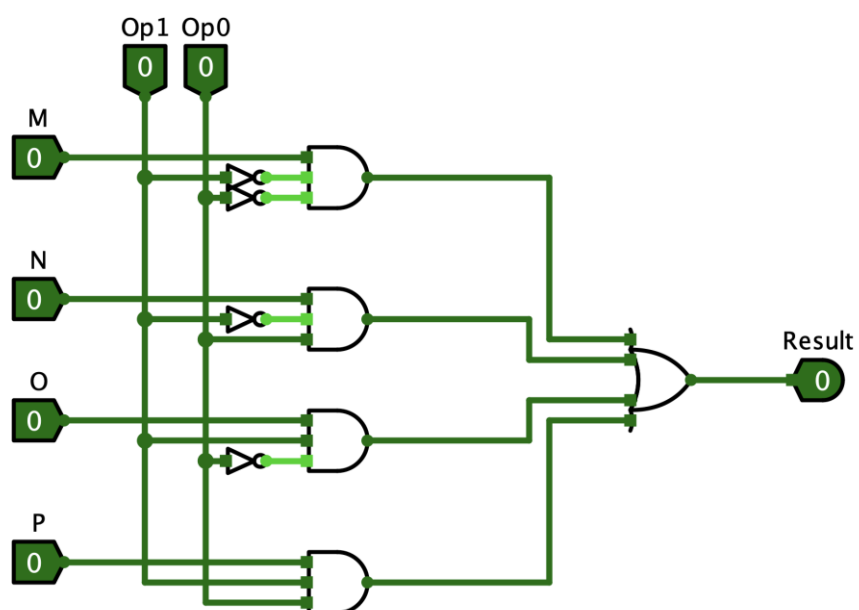
Felipe Rivetti Mizher – 821811

Circuitos utilizados:

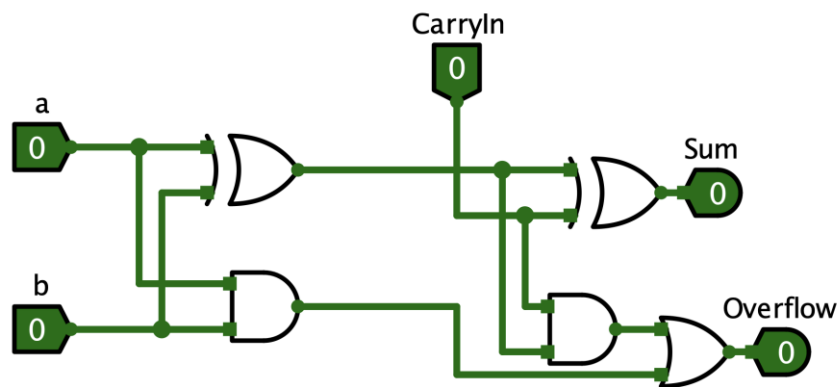
MUX 2x1:



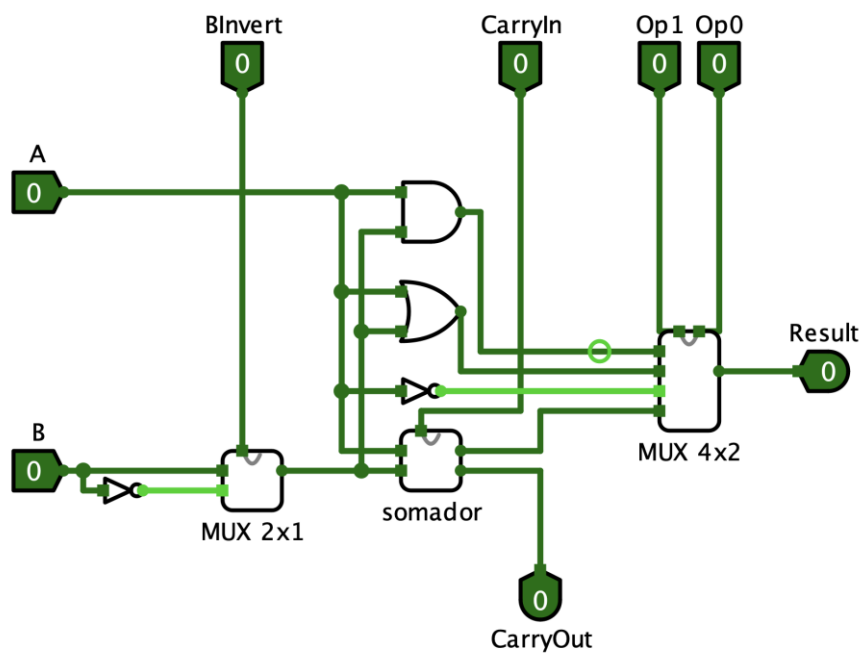
MUX 4x2:



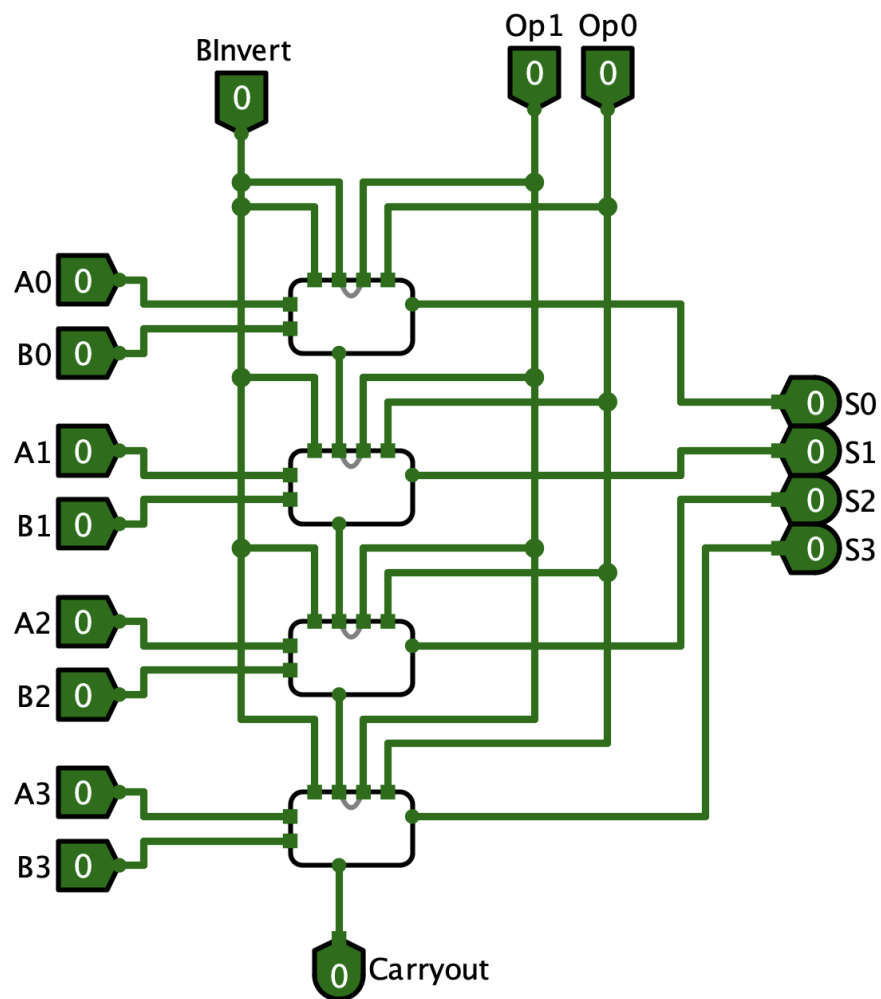
Somador de 1bit:



ULA 1bit:

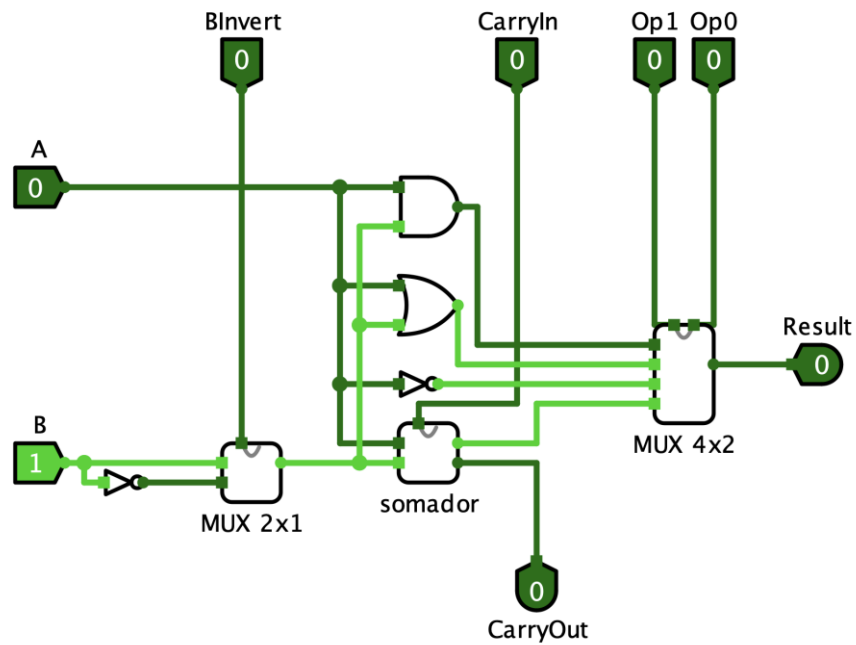


ULA 4bits:

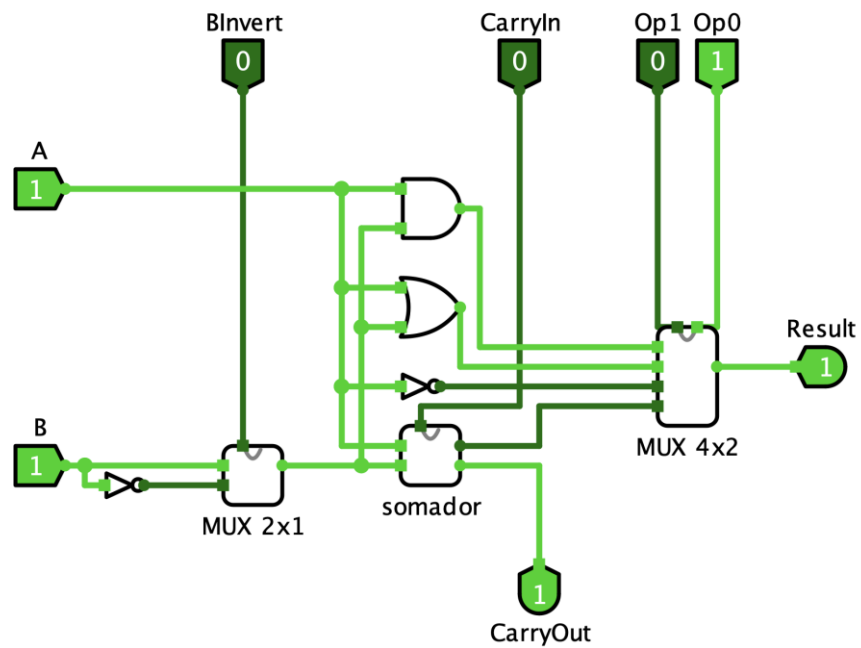


Testes ULA 1 bit:

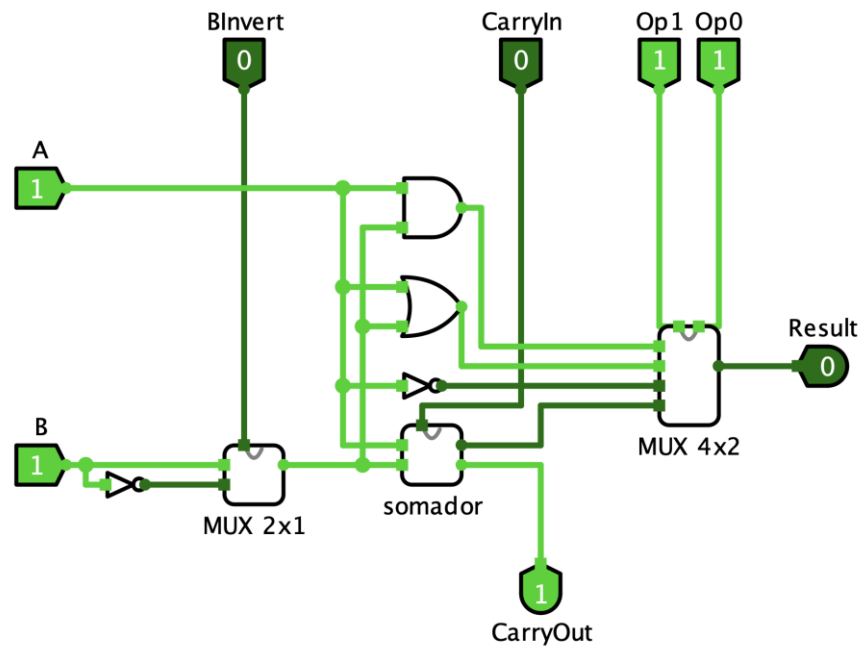
- $A = 0, B = 1, OP = \text{AND}(A, B);$



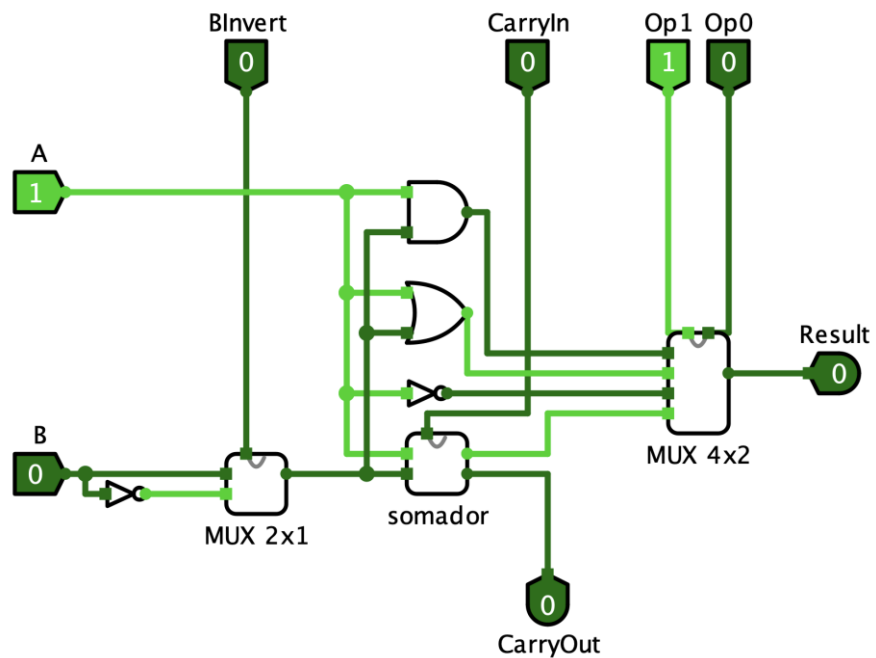
- $A = 1, B = 1, OP = \text{OR}(A, B);$



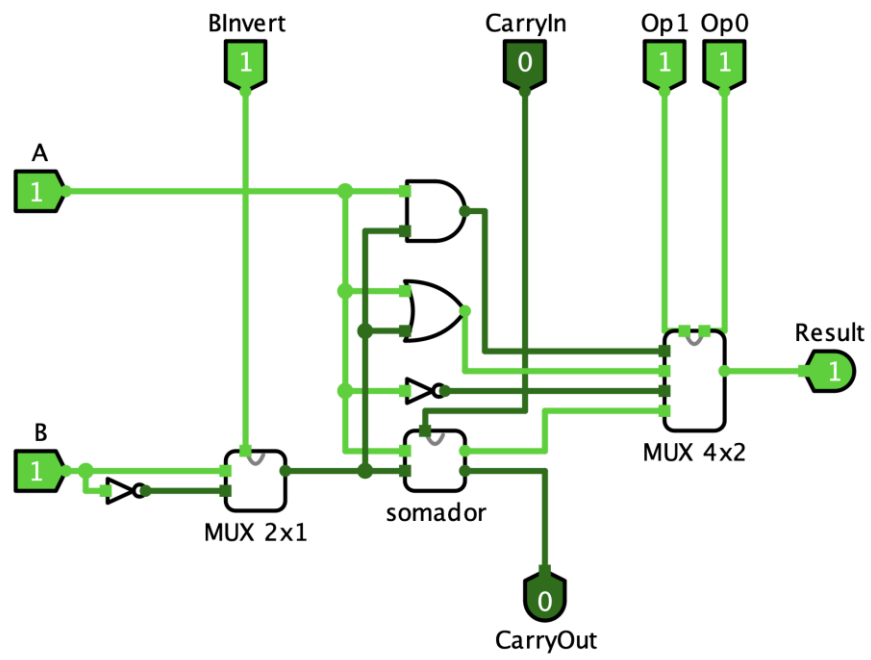
- $A = 1, B = 1, OP = \text{SOMA}(A, B);$



- $A = 1, B = 1, OP = \text{NOT}(A);$

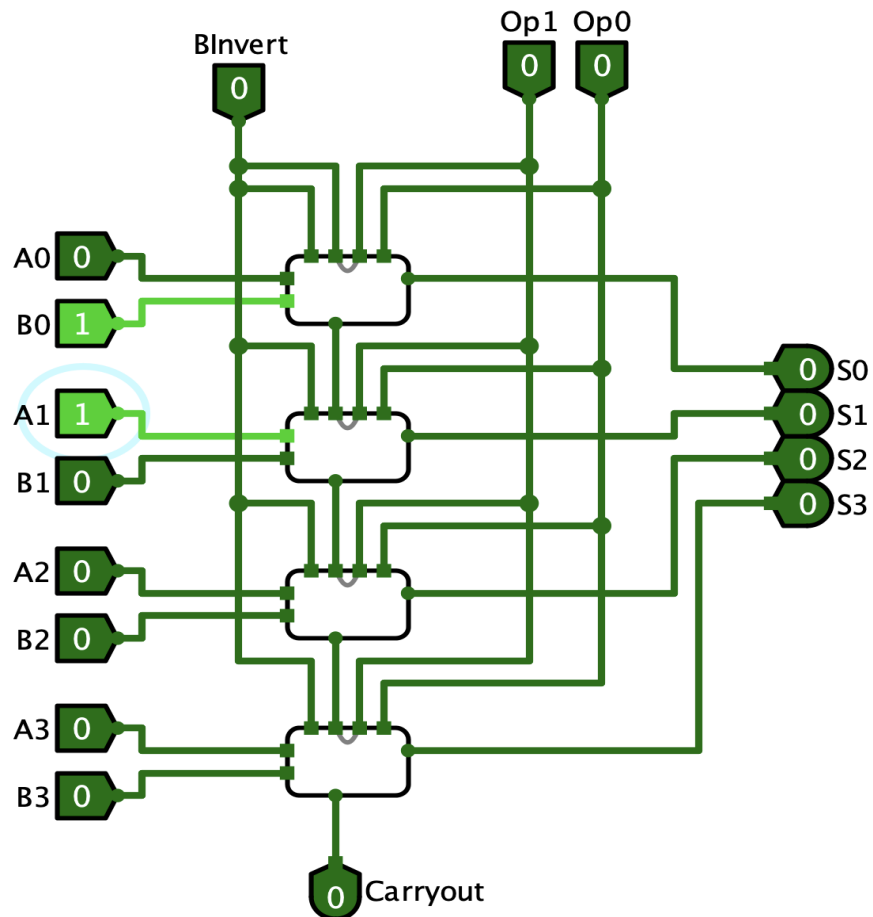


- A = 1, B = 1, OP = SOMA(A, -B);

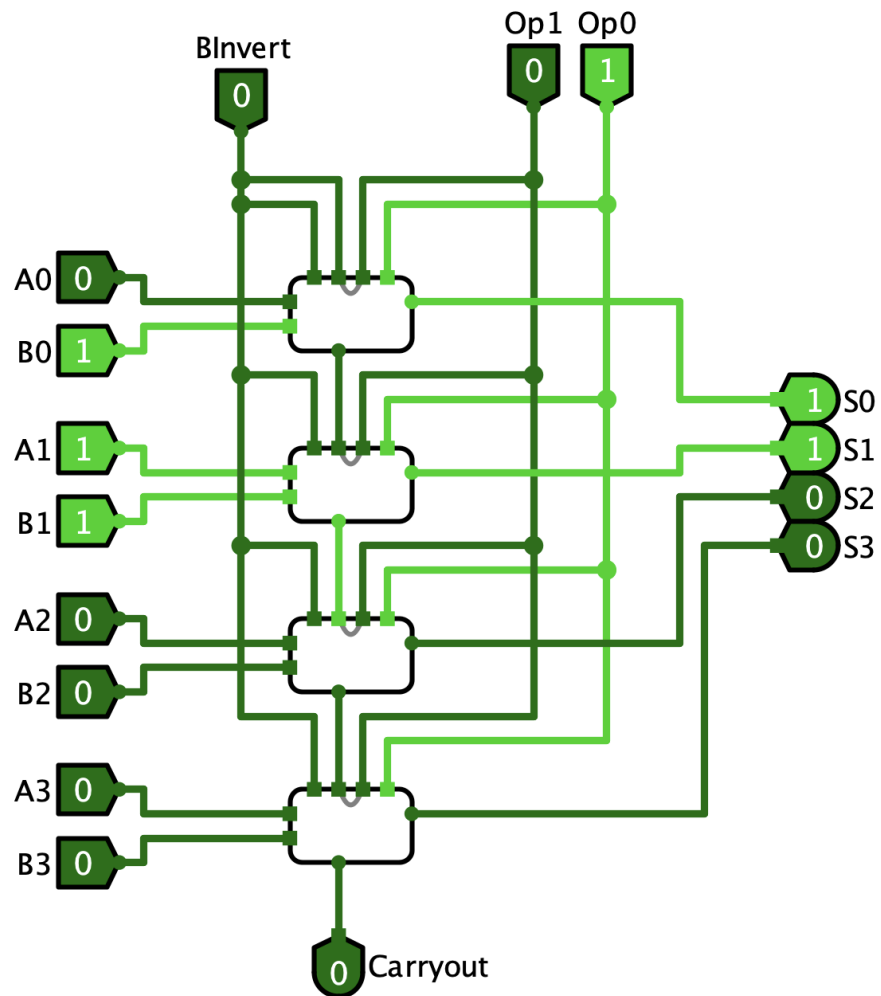


Testes ULA 4bits:

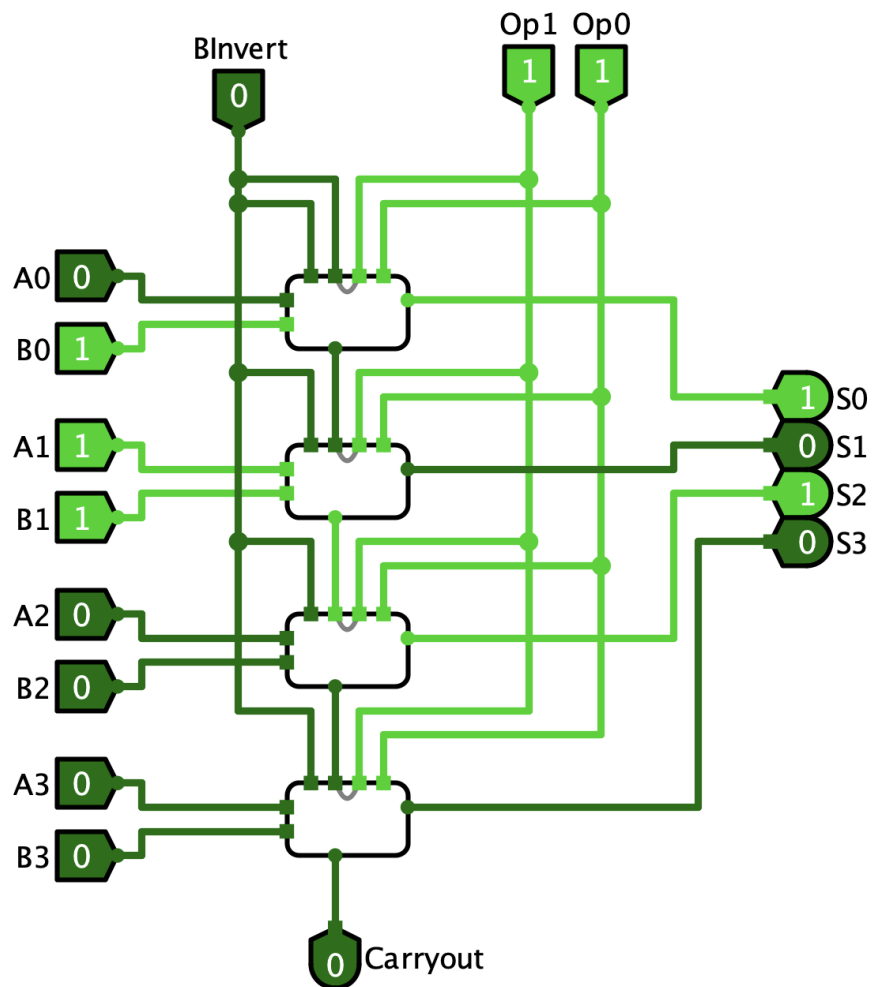
- A = 2 (0010), B = 1 (0001), OP = AND(A, B);



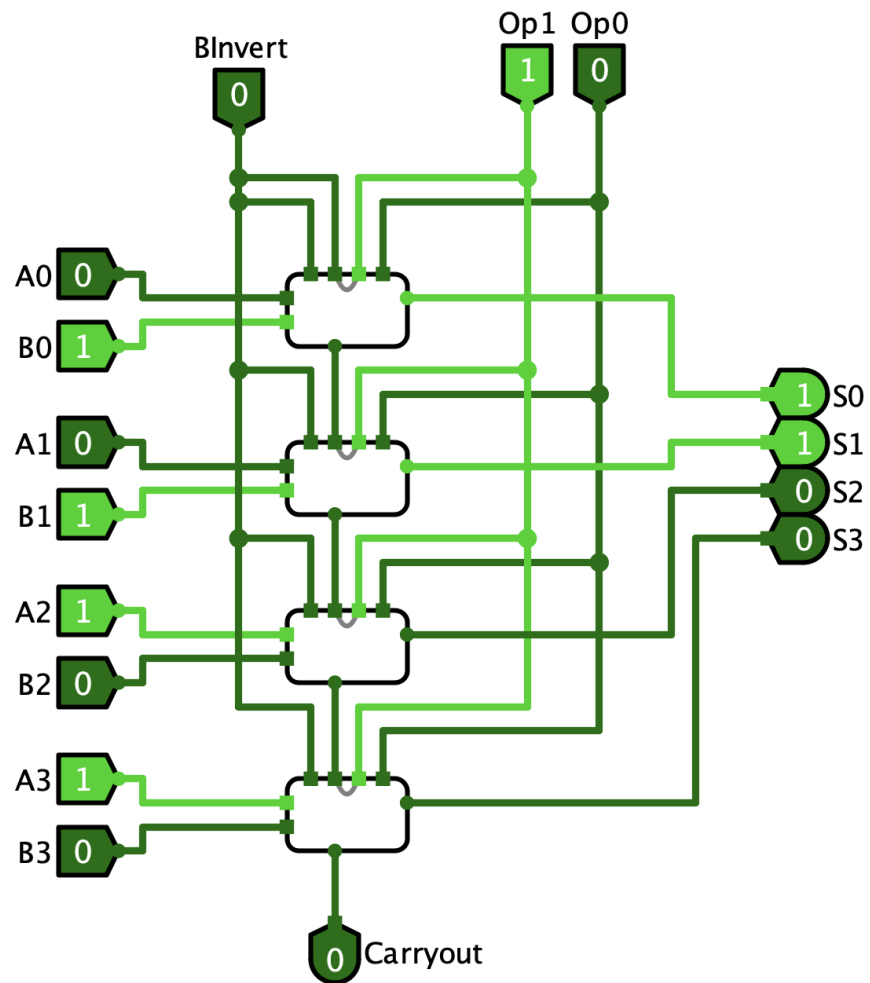
- A = 2 (0010), B = 3 (0011), OP = OR(A, B);



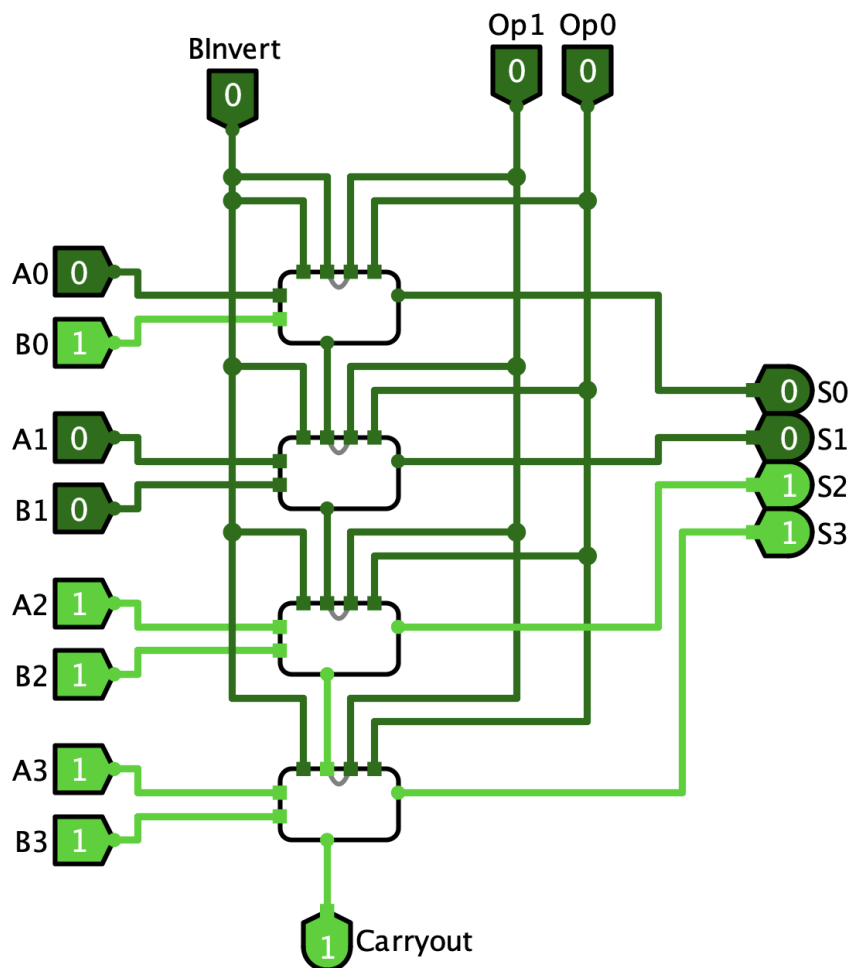
- A = 2 (0010), B = 3 (0011), OP = SOMA(A, B);



- A = 12 (1100), B = 3 (0011), OP = NOT(A);



- A = 12 (1100), B = 13 (1101), OP = AND(A, B);



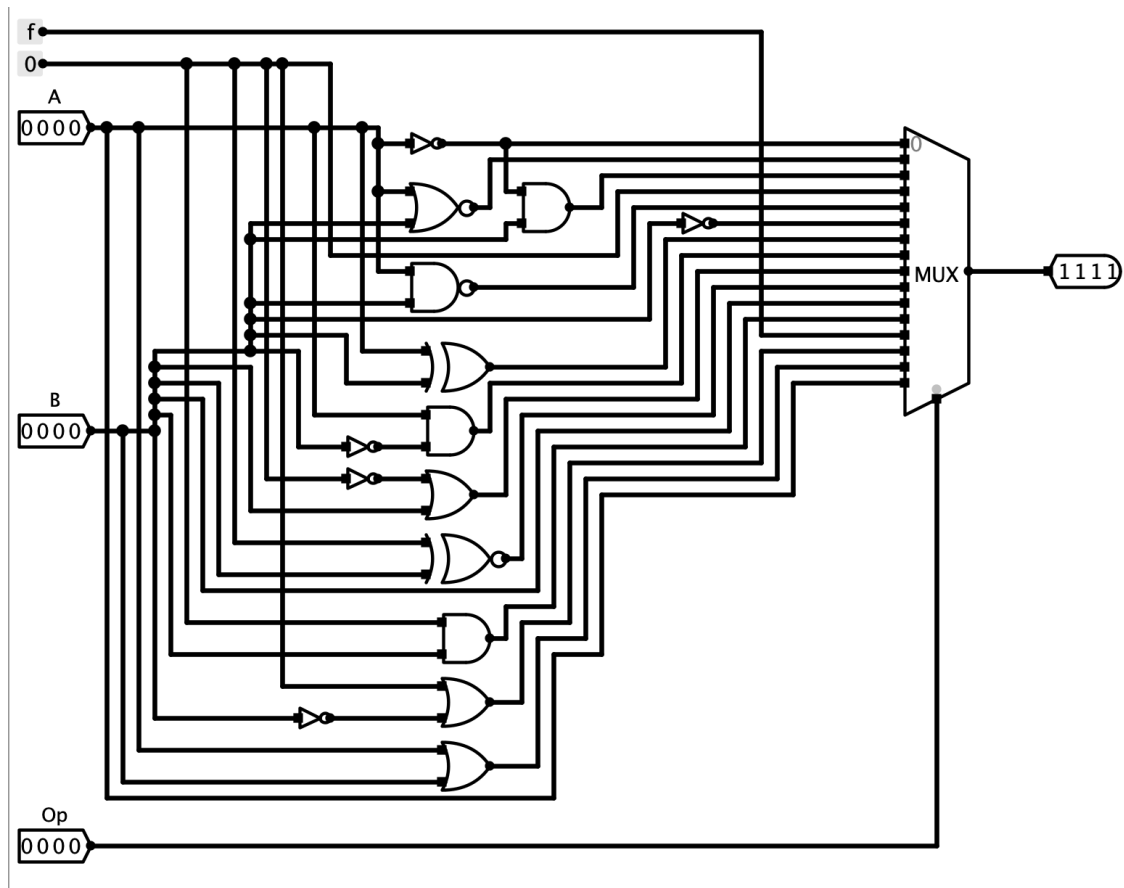
- Tabela de Resultados:

Instrução Realizada	Binário (A, B, OP.Code)	Valor em Hexa (0x ...)	Resultado em Binário
AND(A, B)	0010 0001 00	(0000 1000 0100) = 0x084	0000
OR(A, B)	0010 0011 01	(0000 1000 1101) = 0x8D	0011
SOMA(A, B)	0010 0011 11	(0000 1000 1111) = 0x8F	0101
NOT(A)	1100 0011 10	(0011 0000 1110) = 0x30E	0011
AND(B, A)	1100 1101 00	(0011 0011 0100) = 0x334	1100

Exercício Prático 2:

Circuito Utilizado:

ULA 74LS181:



- Tabela com Resultados das Operações:

Instruções	Binário	Resultado da Operação
450	0100 0101 0000	1011
CB1	1100 1011 0001	0000
A32	1010 0011 0010	0001
C43	1100 0100 0011	0000
124	0001 0010 0100	1111
785	0111 1000 0101	0111
9B6	1001 1011 0110	0010
CD7	1100 1101 0111	0000

FE8	1111 1110 1000	1111
649	0110 0100 1001	1011
D9A	1101 1001 1010	1001
FCB	1111 1100 1011	0000
63C	0110 0011 1100	1111
98D	1001 1000 1101	0111
76E	0111 0110 1110	0111
23F	0010 0011 1111	0010

- Pergunta:

Se o objetivo fosse realmente testar está ULA, quantas linhas a nossa tabela verdade deveria ter, ou seja, a tabela que você preencheu deveria ter quantas linhas?

R: Para que fizesse todos os testes, levando em conta que tem 12 entradas, sendo assim 2^{12} , o total é de 4096 linhas.