

Aula 04

Nome: Guilherme Fróes Camba de Freitas | Matricula: 718116

Nome: Bernardo Ferreira Temponi | Matricula: 699469

Nome: Diego Basilio Arruda | Matricula: 701139

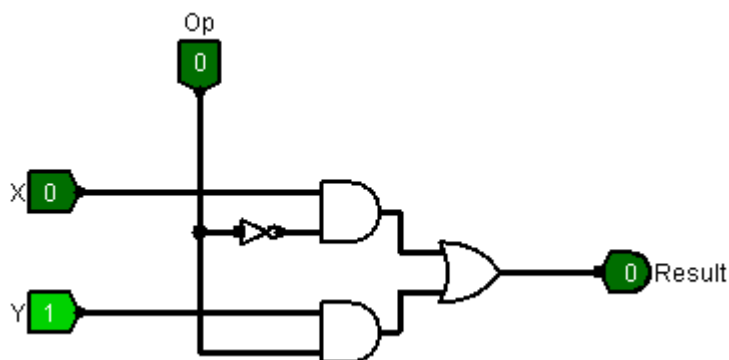
Unidade Logica Aritimetica (ULA)

1. Tabela

| | S= | 0000 | 0001 | 0010 | 0011 | 0100 | 0101 | 0110 | 0111 | 1000 | 1001 | 1010 | 1011 | 1100 | 1101 | 1110 | 1111 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| A | 0000 | 1111 | 1111 | 0000 | 0000 | 1111 | 1111 | 0000 | 0000 | 1111 | 1111 | 0000 | 0000 | 1111 | 1111 | 0000 | 0000 |
| B | 0000 | | | | | | | | | | | | | | | | |
| A | 0001 | 1110 | 1110 | 0000 | 0000 | 1110 | 1110 | 0000 | 0000 | 1111 | 1111 | 0001 | 0001 | 1111 | 1111 | 0001 | 0001 |
| B | 0001 | | | | | | | | | | | | | | | | |
| A | 0010 | 1101 | 1101 | 0000 | 0000 | 1101 | 1101 | 0000 | 0000 | 1111 | 1111 | 0010 | 0010 | 1111 | 1111 | 0010 | 0010 |
| B | 0010 | | | | | | | | | | | | | | | | |
| A | 0100 | 1011 | 1011 | 0000 | 0000 | 1011 | 1011 | 0000 | 0000 | 1111 | 1111 | 0100 | 0100 | 1111 | 1111 | 0100 | 0100 |
| B | 0100 | | | | | | | | | | | | | | | | |
| A | 1000 | 0111 | 0111 | 0000 | 0000 | 0111 | 0111 | 0000 | 0000 | 1111 | 1111 | 1000 | 1000 | 1111 | 1111 | 1000 | 1000 |
| B | 1000 | | | | | | | | | | | | | | | | |

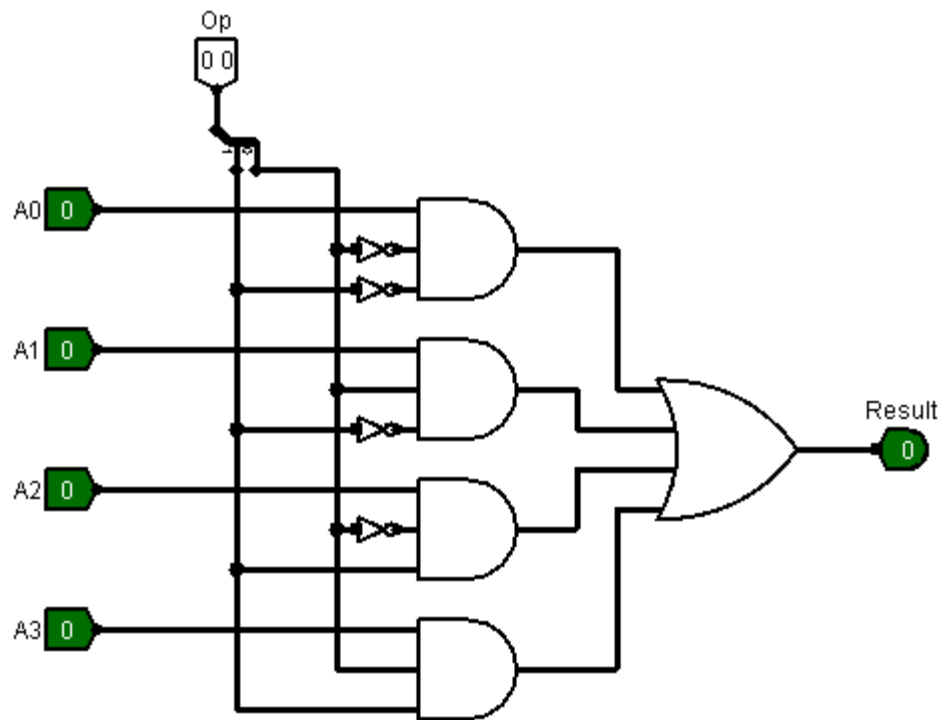
MUX 1 bit

1. Logisim



MUX 4 bit

1. Logisim



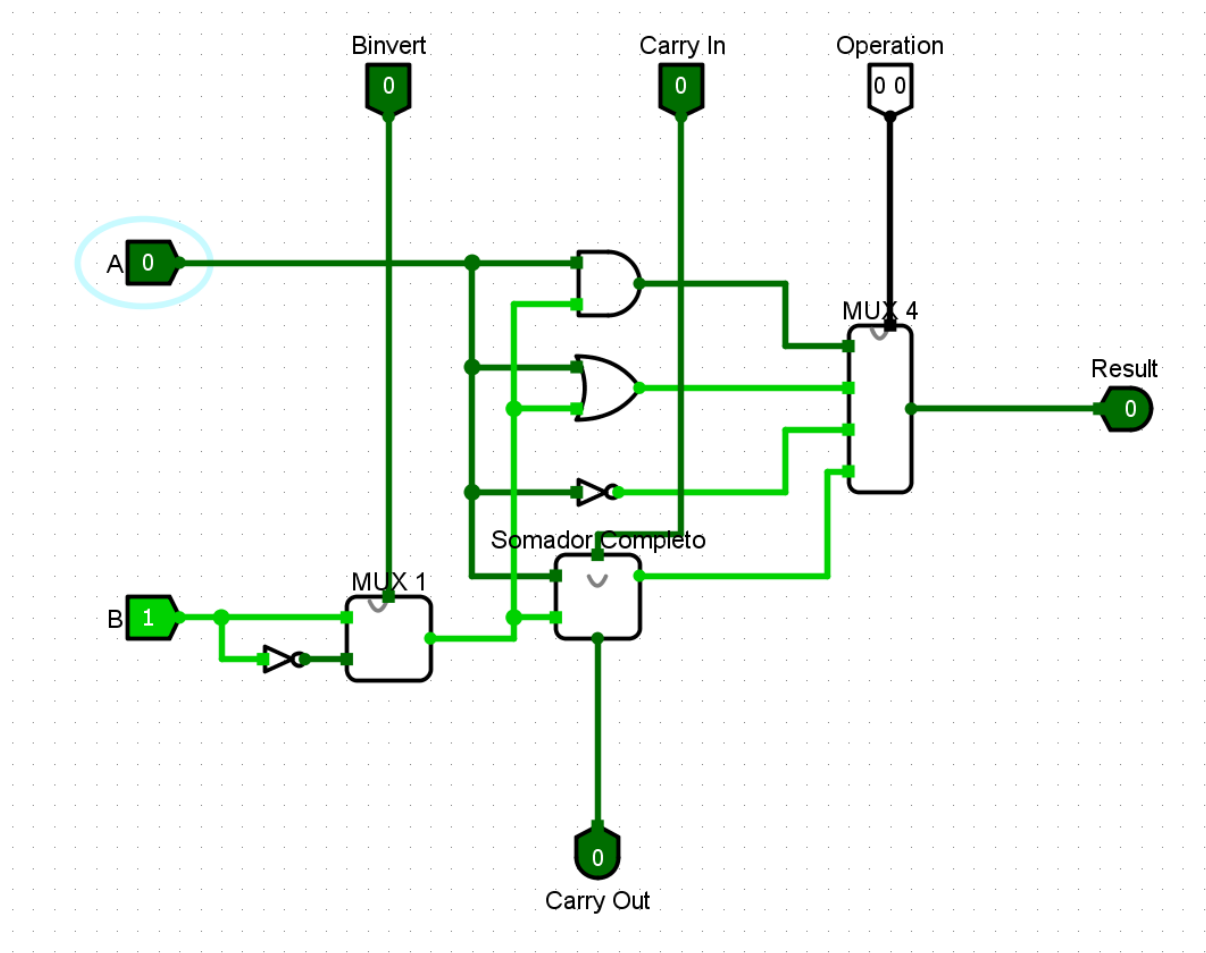
Teste da ULA

Inicio:

A=0;

B=1;

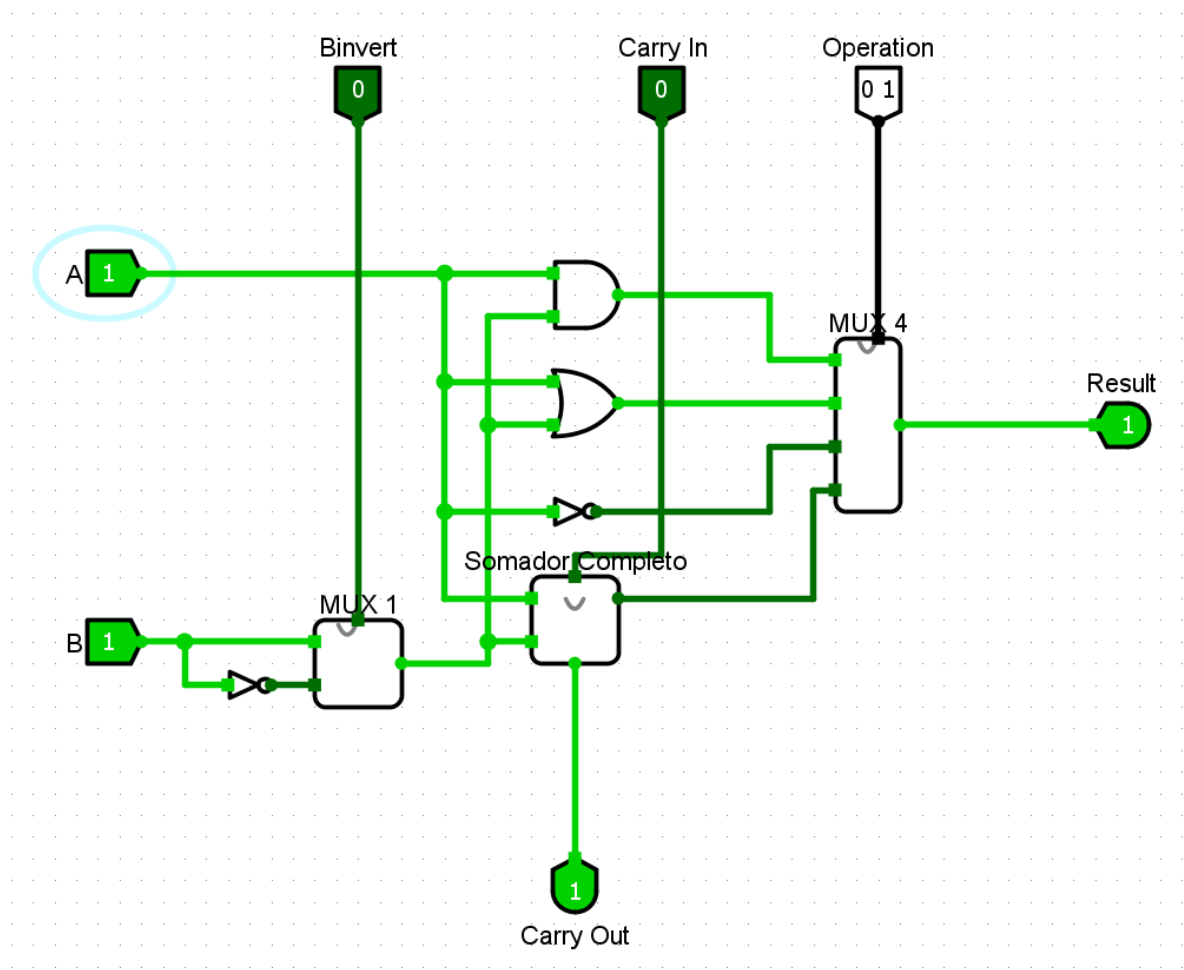
AND(A,B);



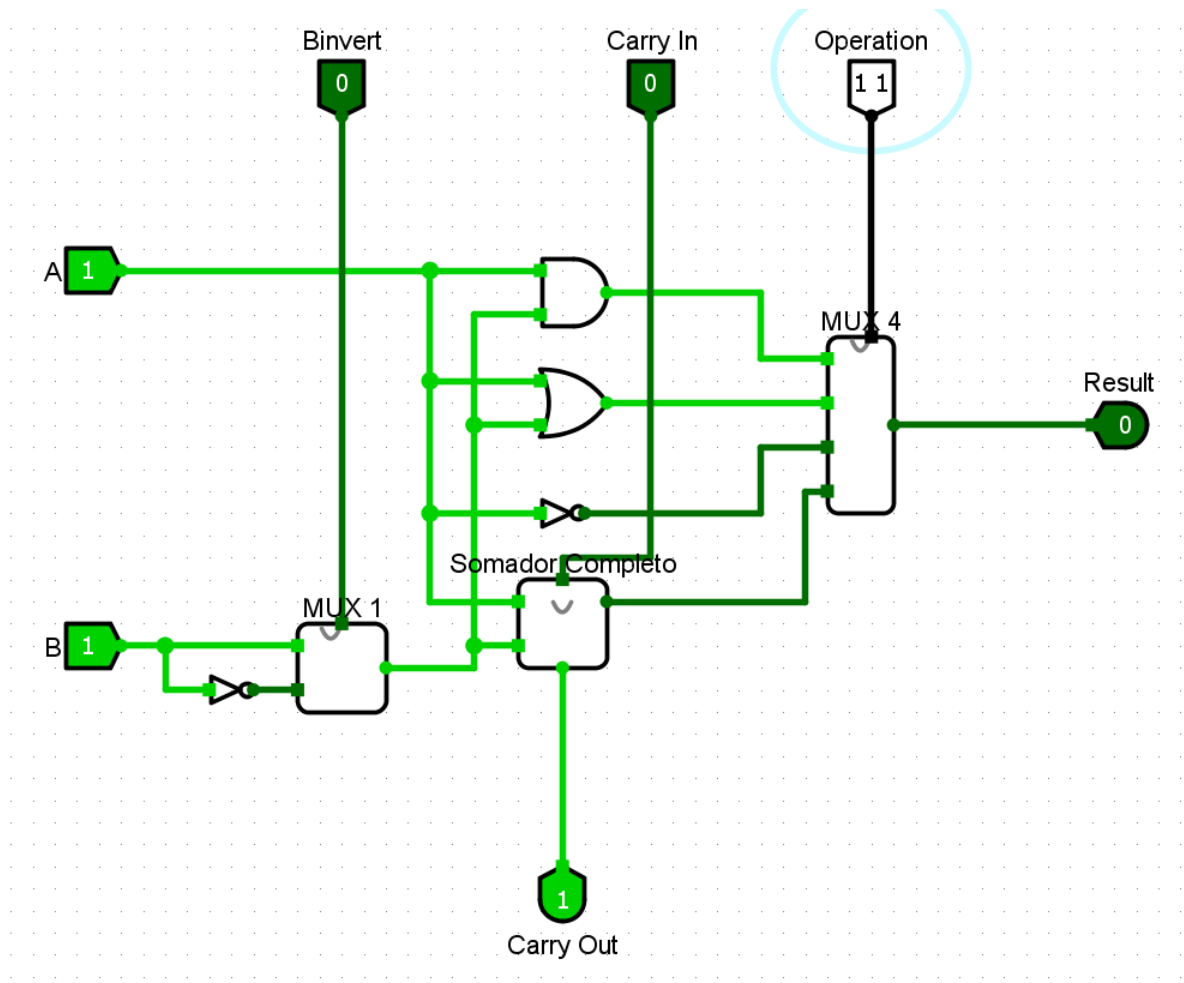
A=1;

B=1;

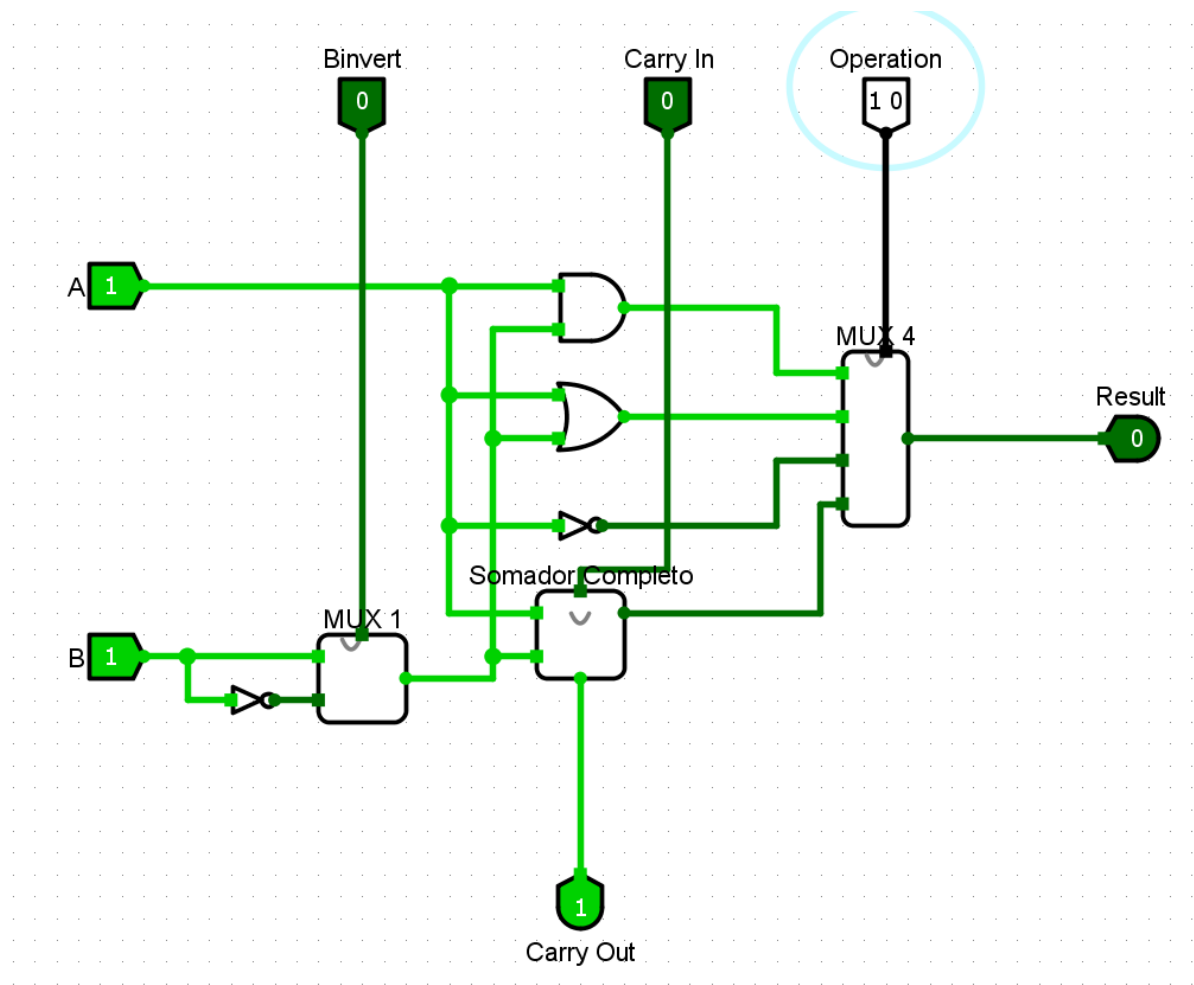
OR(A,B);



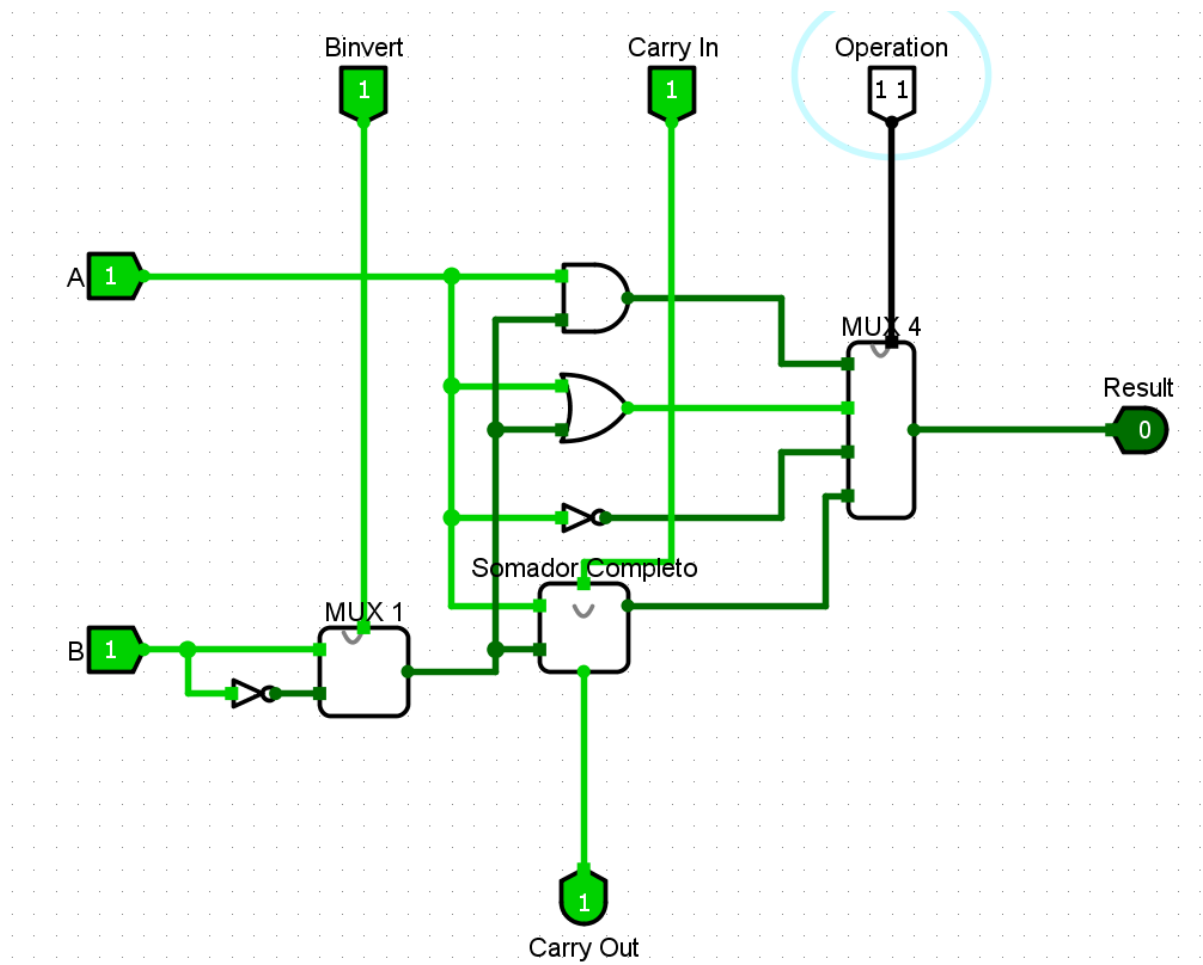
SOMA(A,B);



NOT(A);



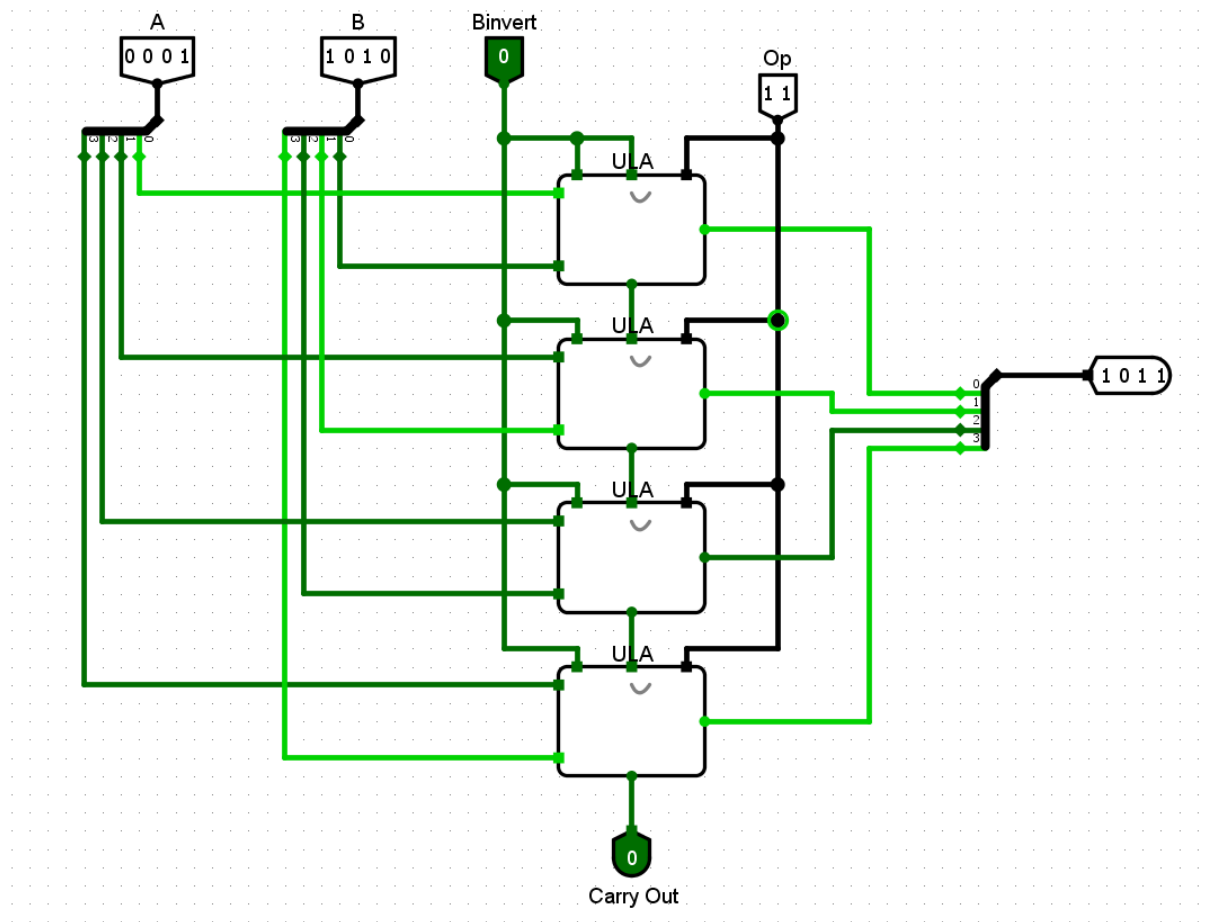
SOMA (A,-B);



Fim.

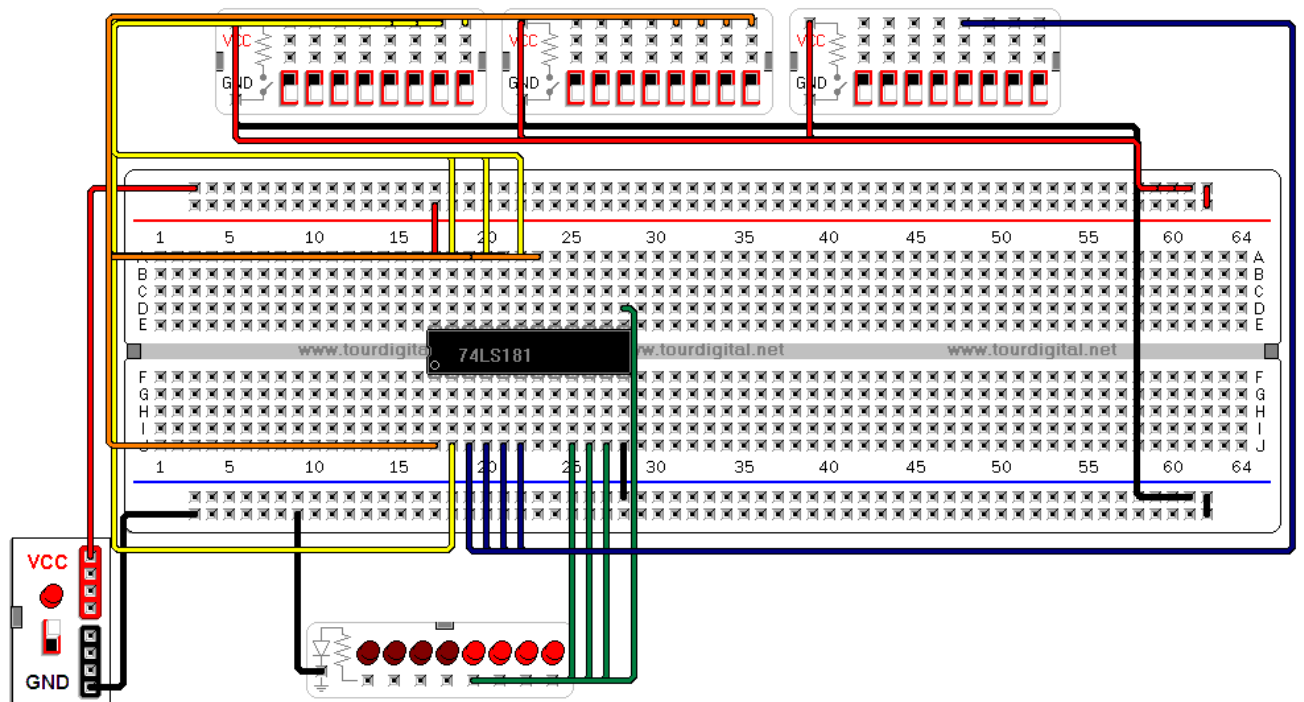
Unidade Logica Aritimetica 4 bits (ULA 4)

1. Logisim

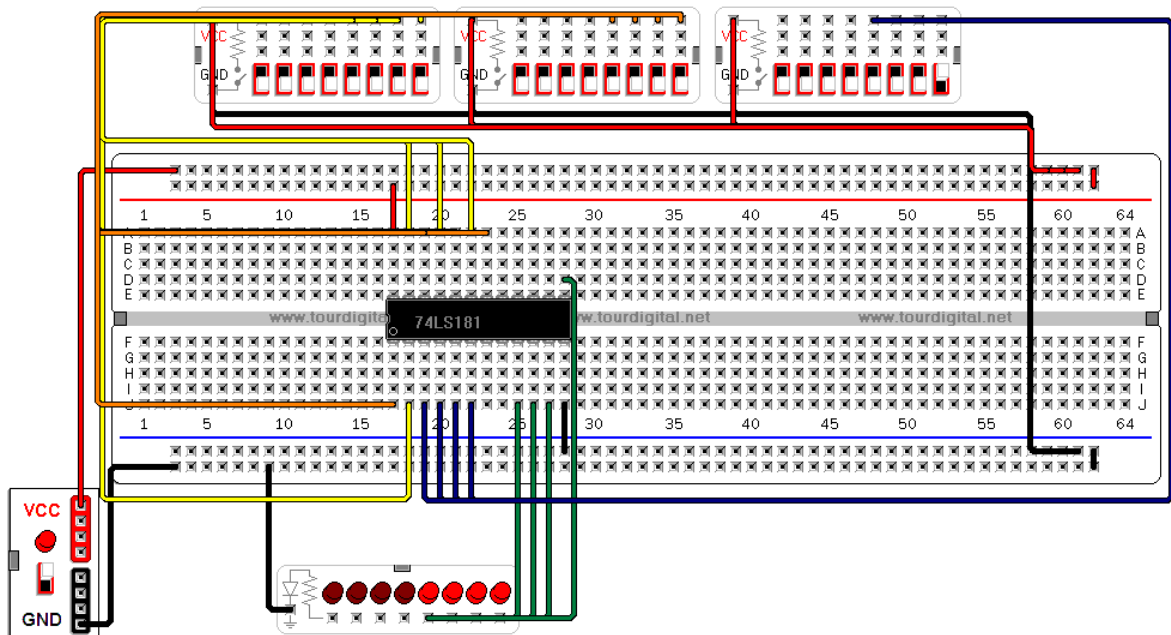


2. Simulador 97

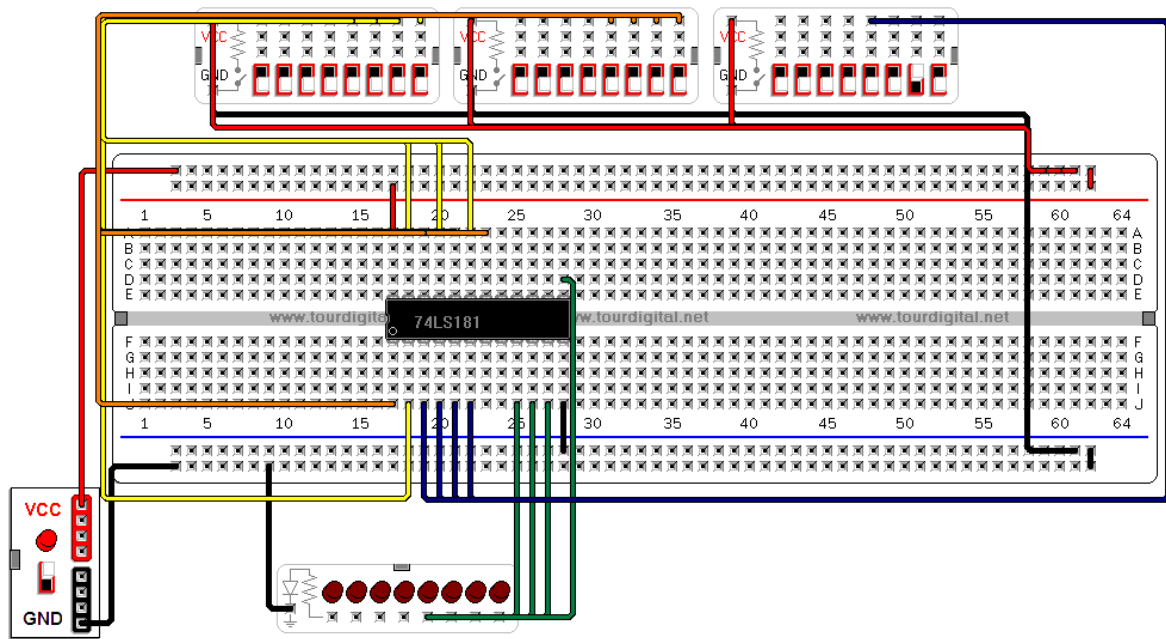
NOT(A)



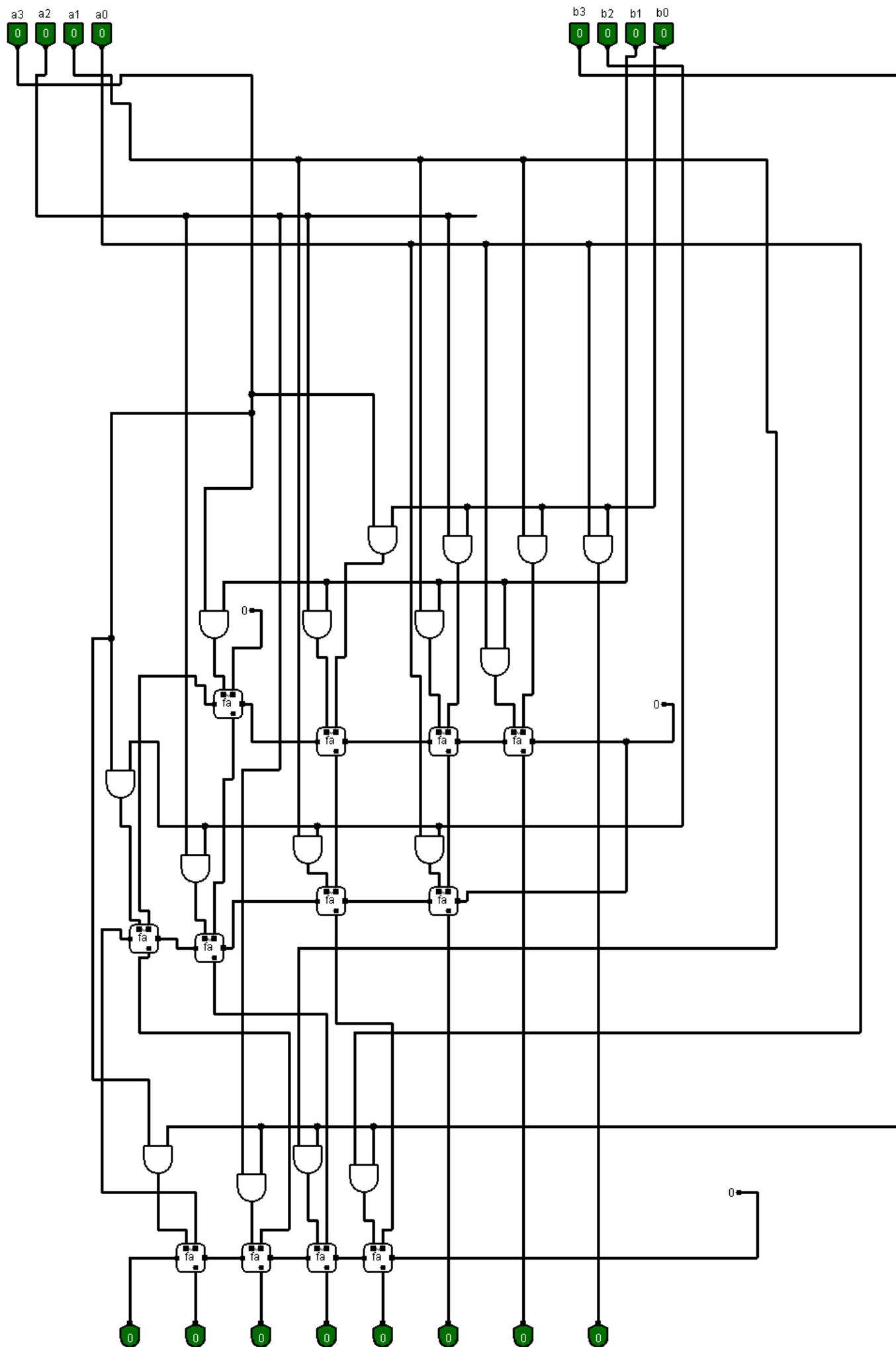
$\text{NOT}(\text{OR}(A,B))$



$\text{AND}(\text{NOT}(A), B)$



Multiplicador 4bits



Somador completo de 1 bit

