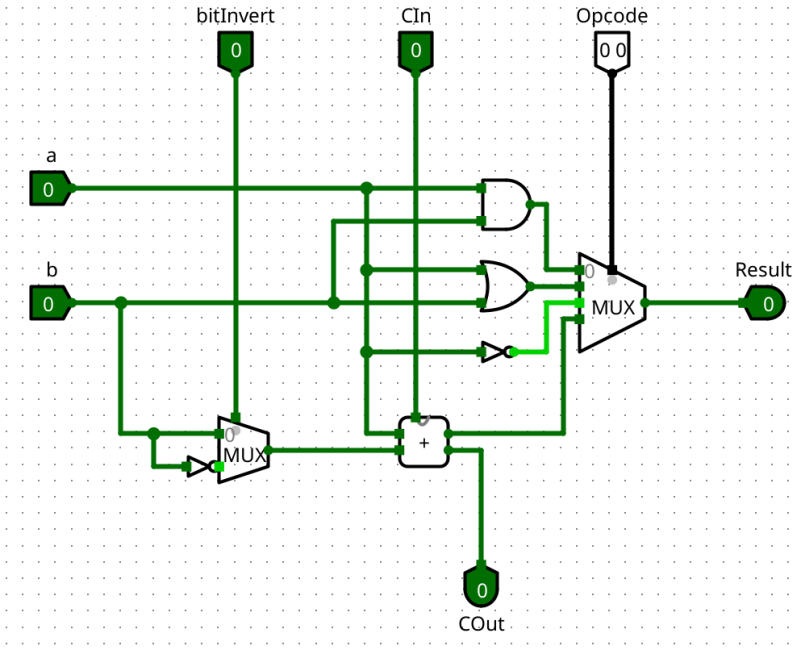
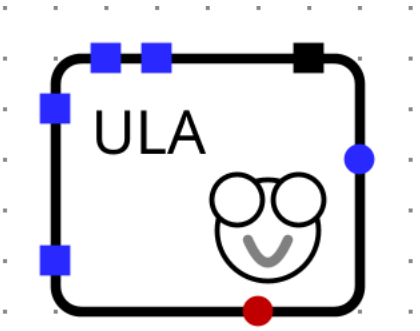
Parte 1

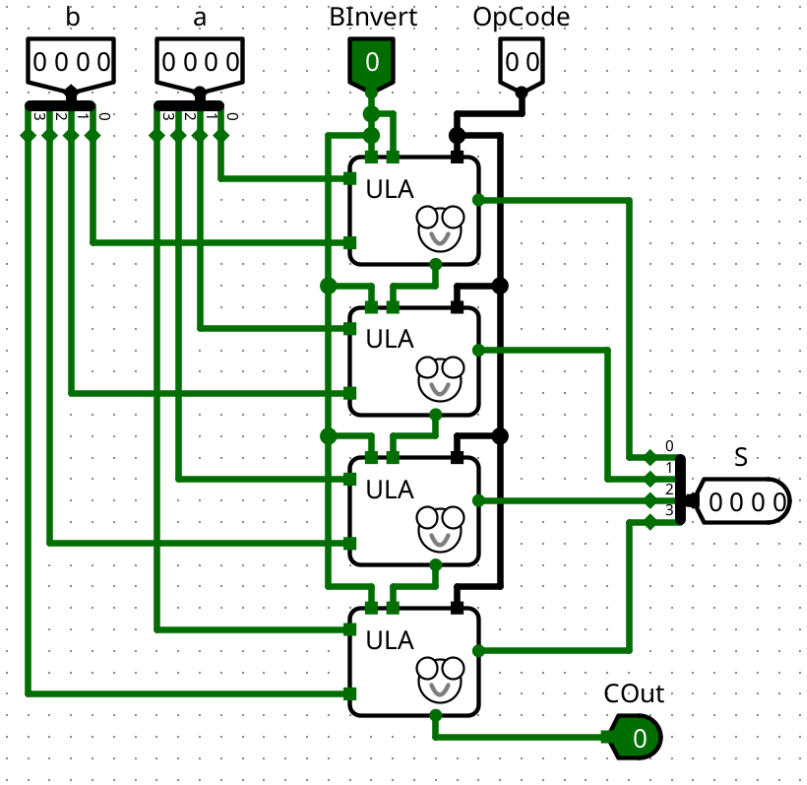
Circuitos elaborados

ULA 1 bit





ULA 4 bits



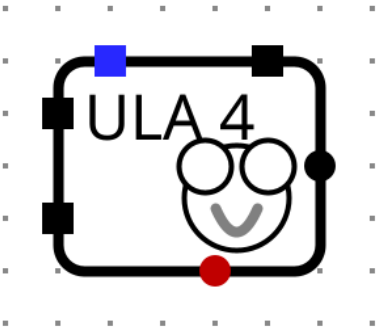
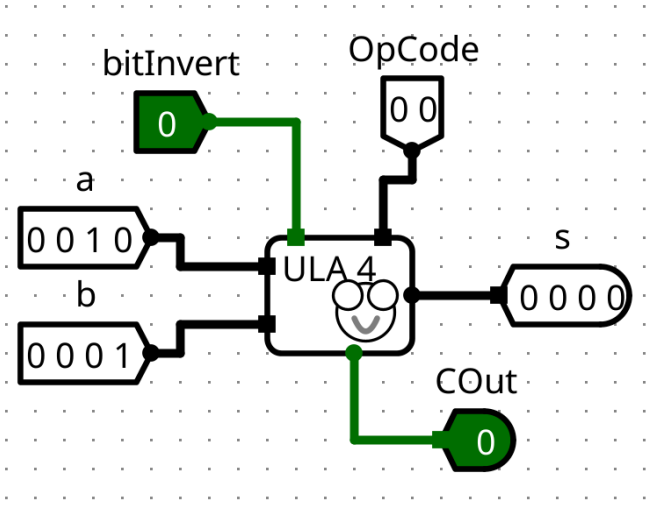


Tabela de resultados

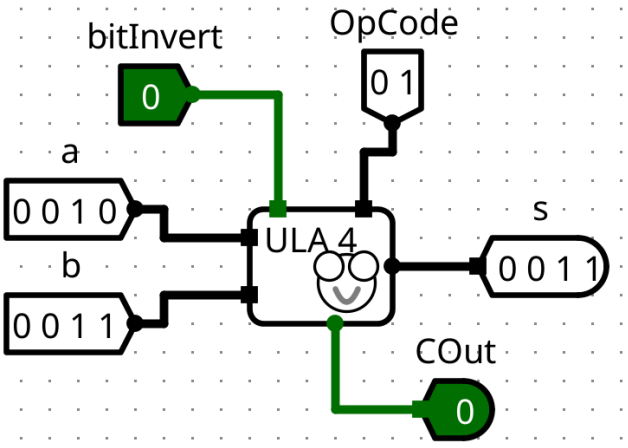
Teste	Instrução Realizada	Binário (A,B,OpCode)	Valor em Hexa	Resultado
1	AND(A,B)	0010 0001 00	0x84	0000
2	OR(A,B)	0010 0011 01	0x8d	0011
3	SOMA(A,B)	0010 0011 11	0x8f	0101
4	NOT(A)	1100 0011 10	0x30e	0011
5	AND(B,A)	1100 1101 00	0x334	1100

Prints dos testes

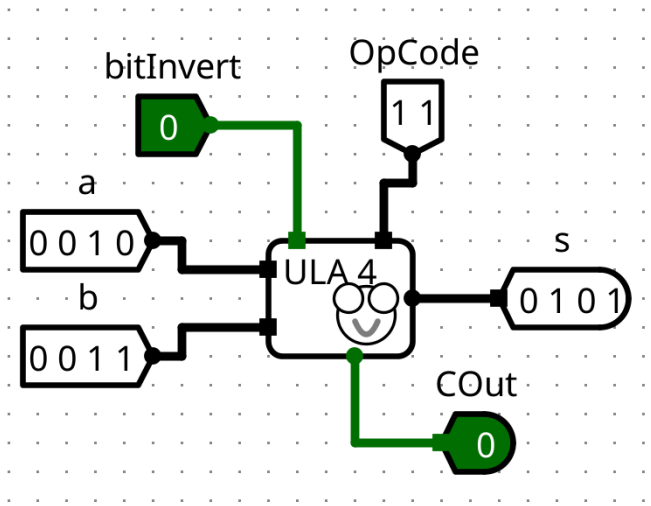
Teste 1:



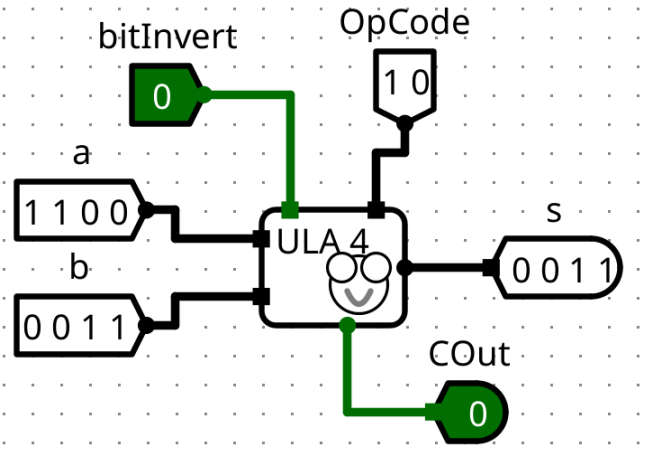
Teste 2:



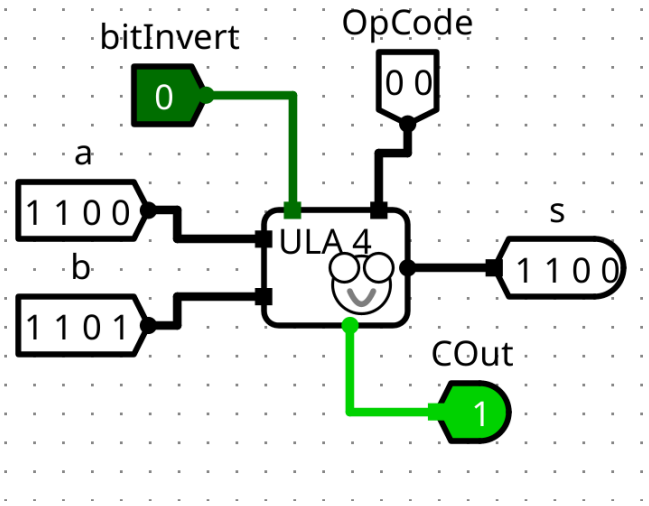
Teste 3:



Teste 4:



Teste 5:

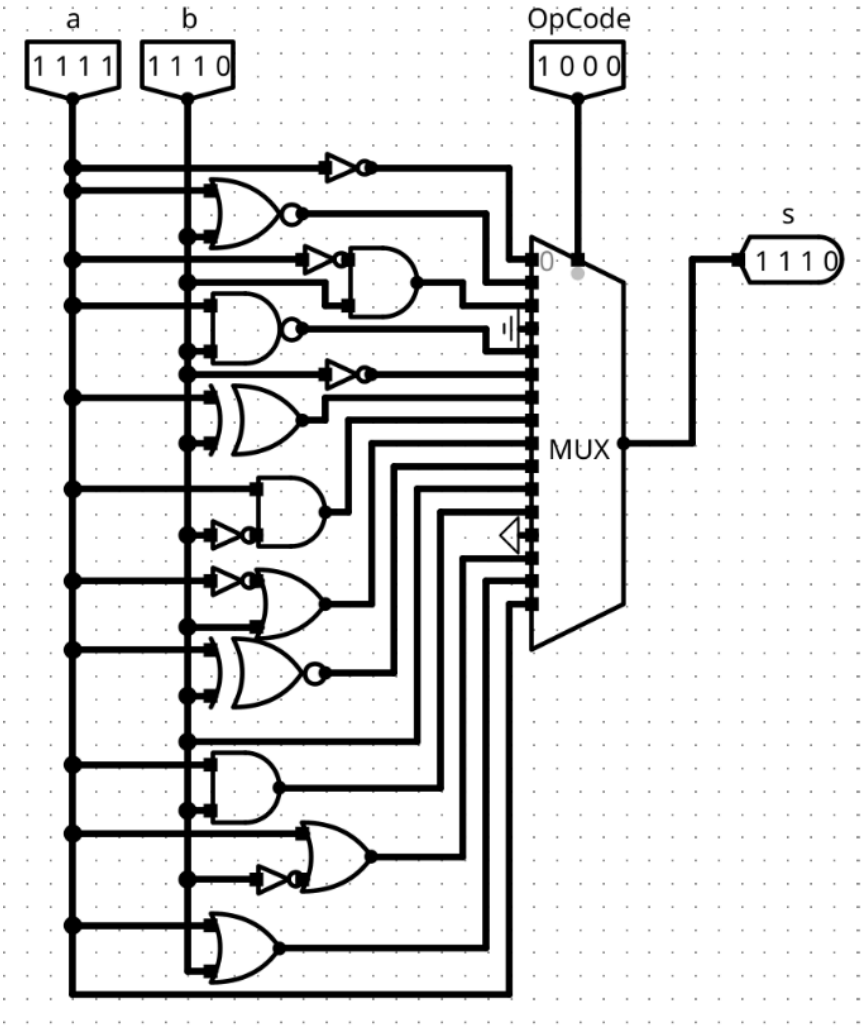


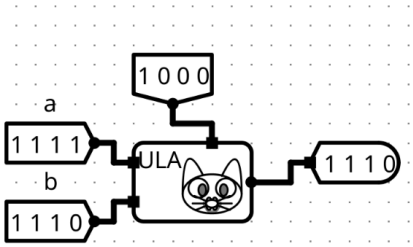
Parte 2

Tabela de resultados

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

Projeto da ULA





Resposta:

A ULA anterior tem 12 entradas, então a sua tabela verdade teria $2^{12} = 4096$ linhas