Exercício Prático 02

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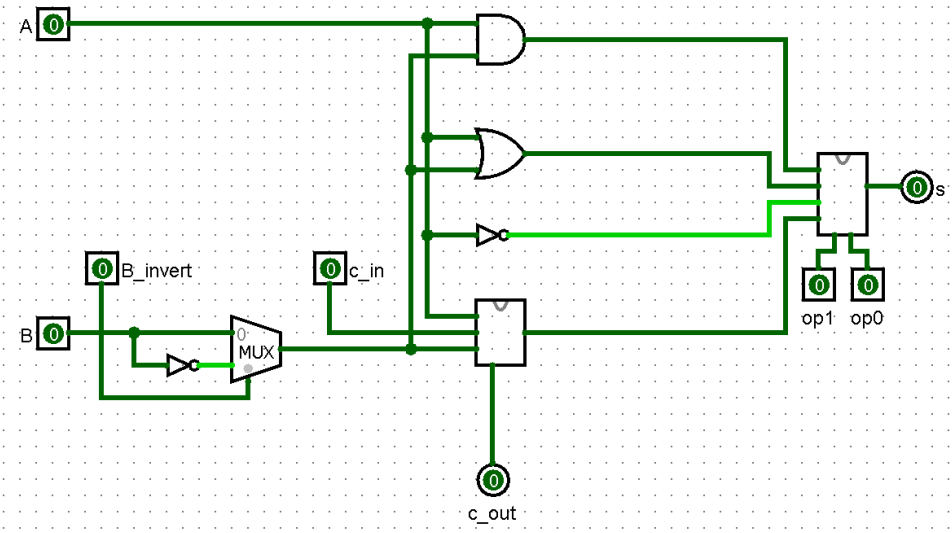
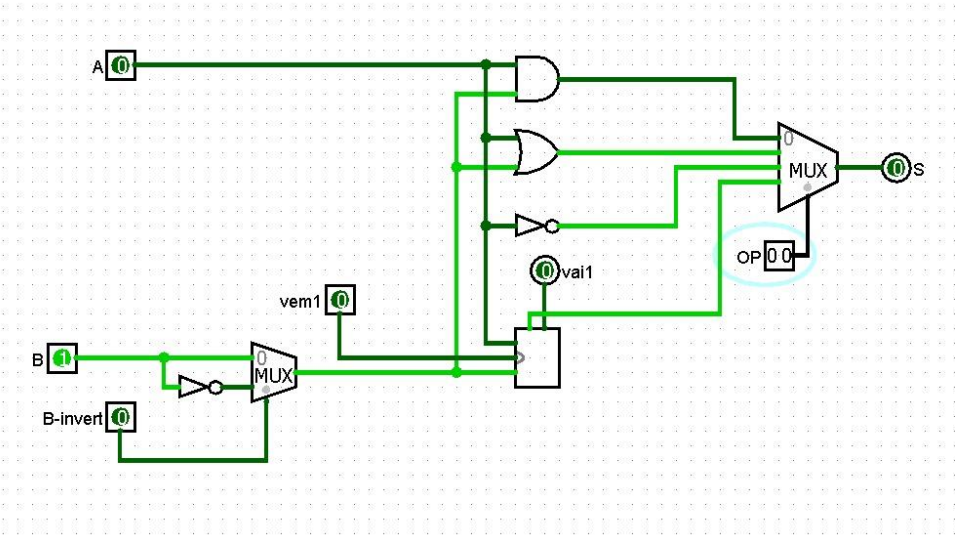
Parte 1:

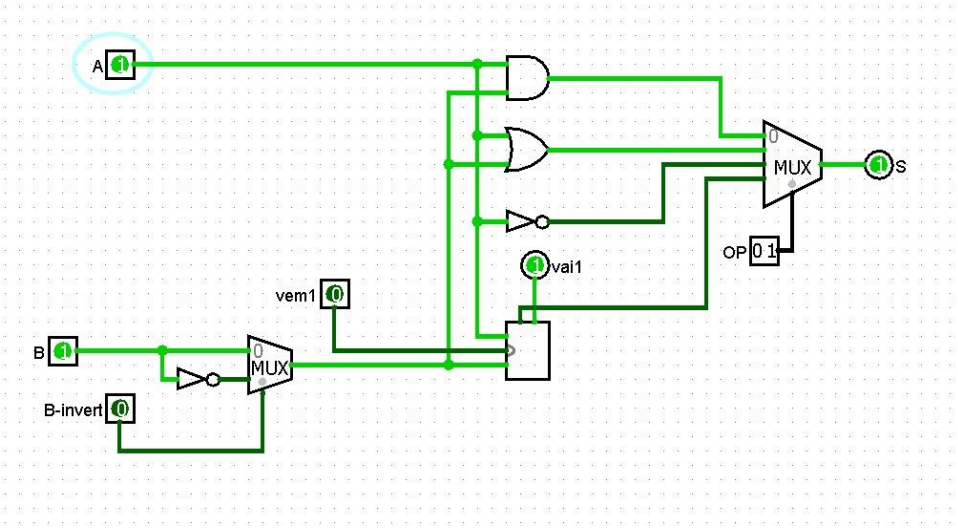


ULA 1 bit

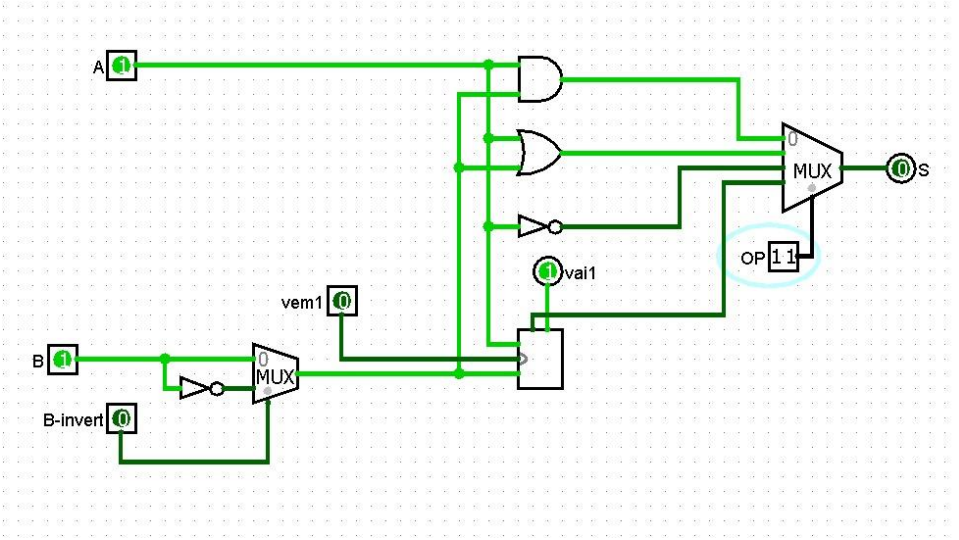
Testes ULA 1bit:



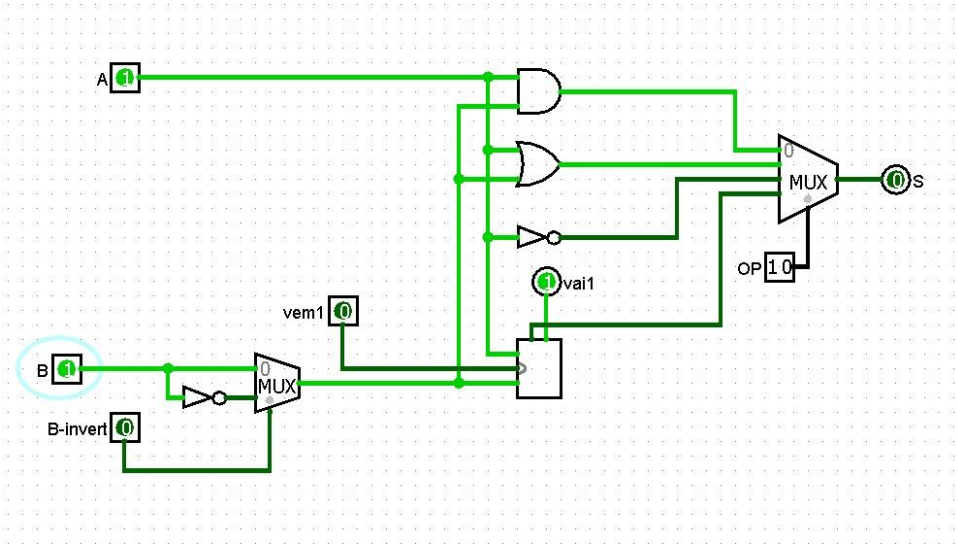
AND(A,B)



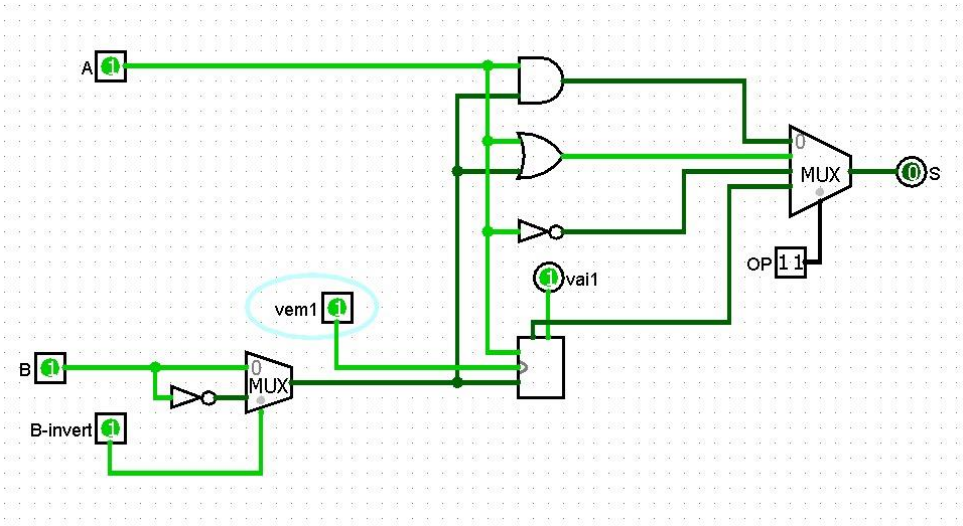
OR(A,B)



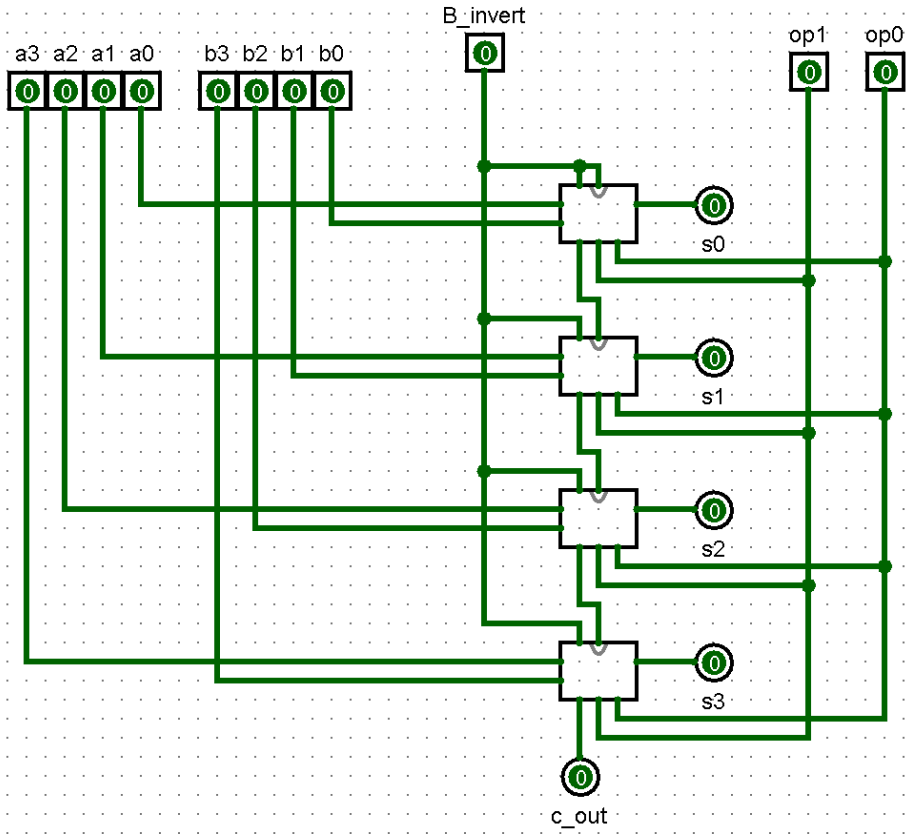
SOMA(A,B)



NOT(A)



SOMA(A, -B)

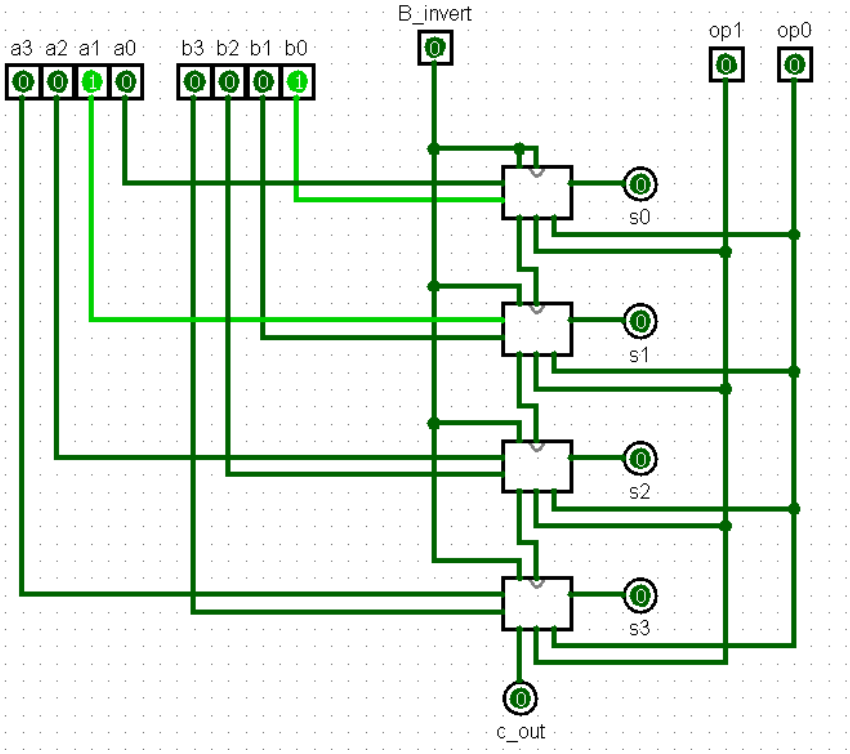


ULA 4 bits

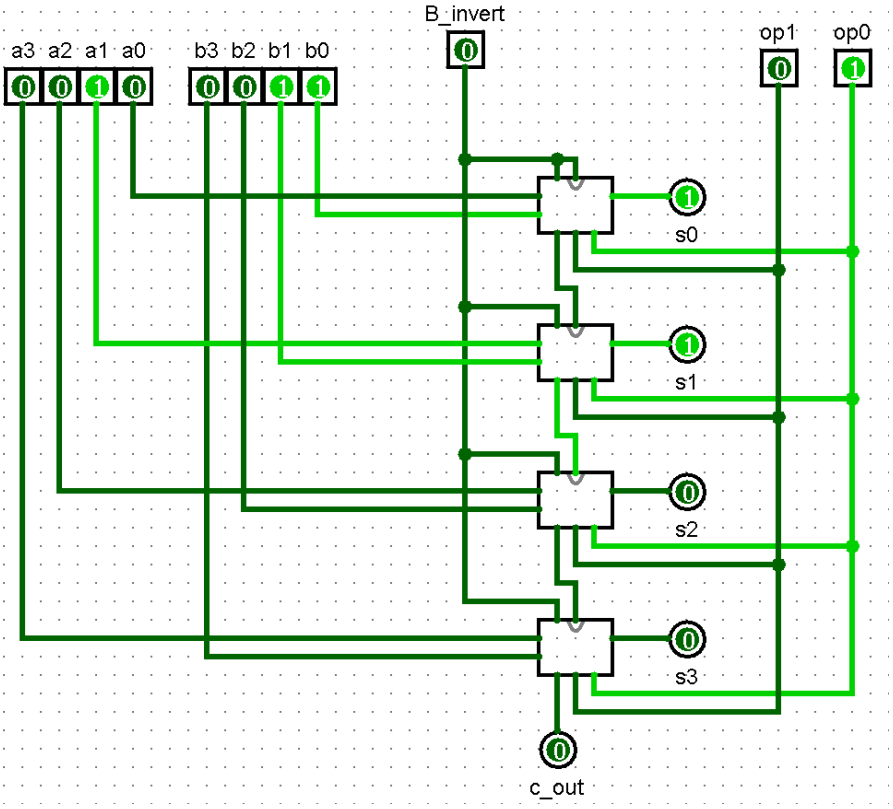
Instrução realizada	Binário (A,B,Op.code)	Valor em Hexa (0x …)	Resultado em binário
AND(A,B)	0010 0001 00	0x084	0000
OR(A,B)	0010 0011 01	0x0C5	0011
SOMA(A,B)	0010 0011 11	0x0C7	0101
NOT(A)	1100 0001 10	0x306	0011

AND(B,A)	1100 1101 00	0x334	1100

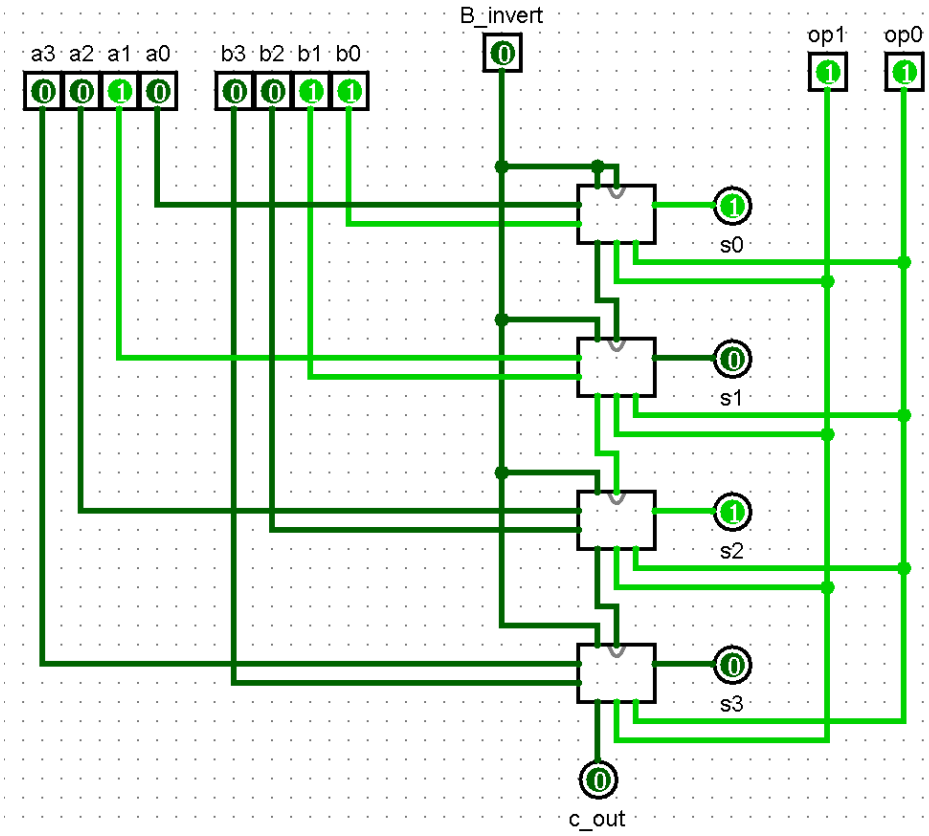
Testes ULA 4bits:



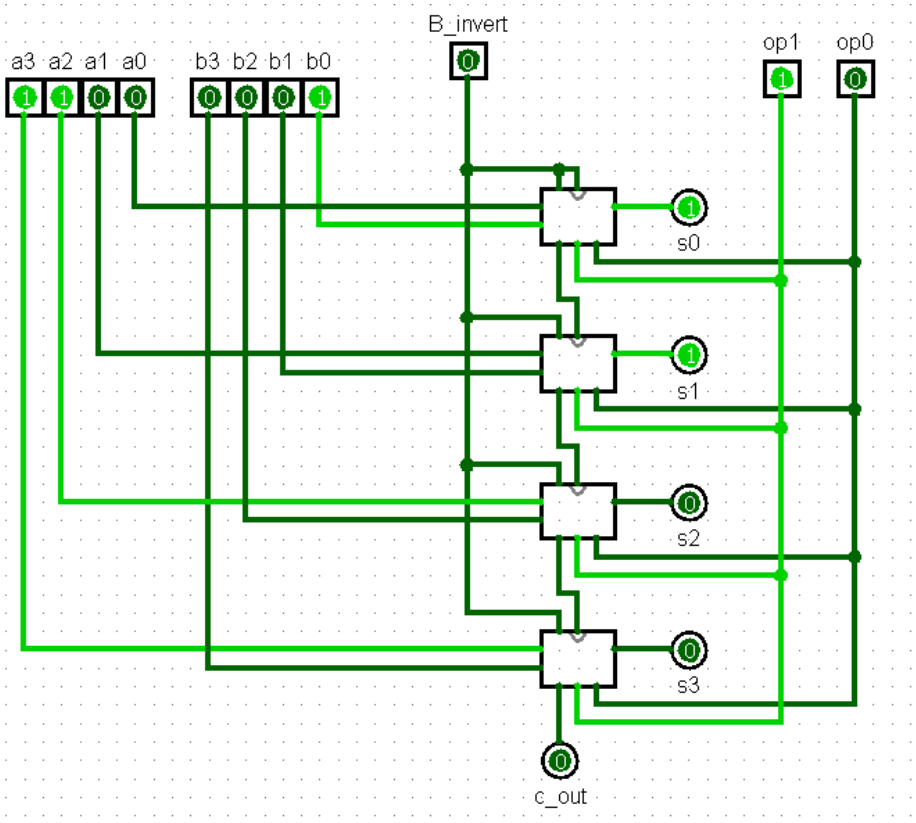
AND(A,B)



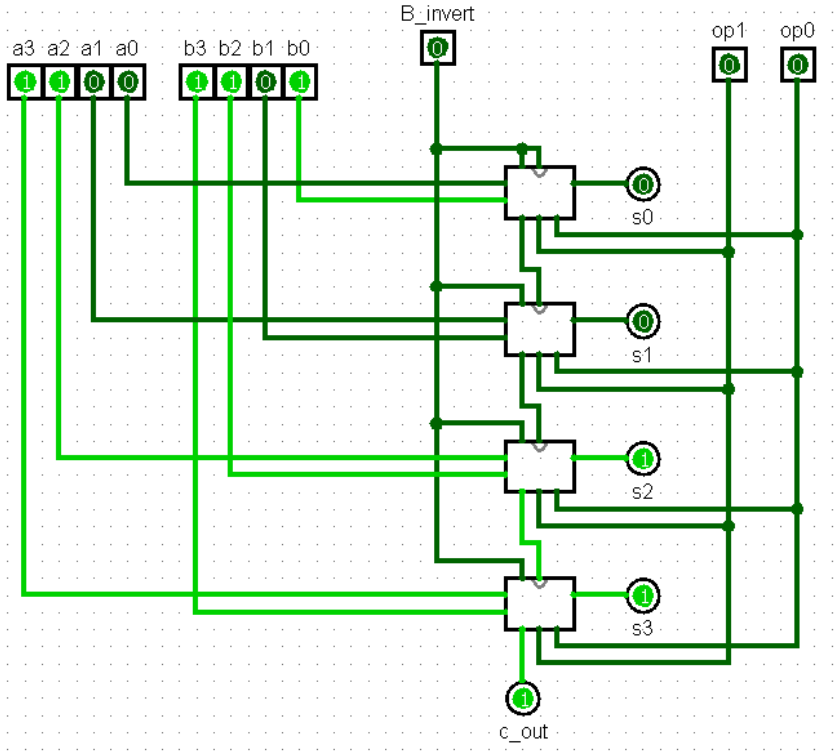
OR (A,B)


B_invert
op1
op0
a3 a2 a1 a0
b3 b2 b1 b0
s0
s1
s2
s3
c_out

SOMA(A,B)


B_invert
op1
op0
a3 a2 a1 a0
b3 b2 b1 b0
s0
s1
s2
s3
c_out

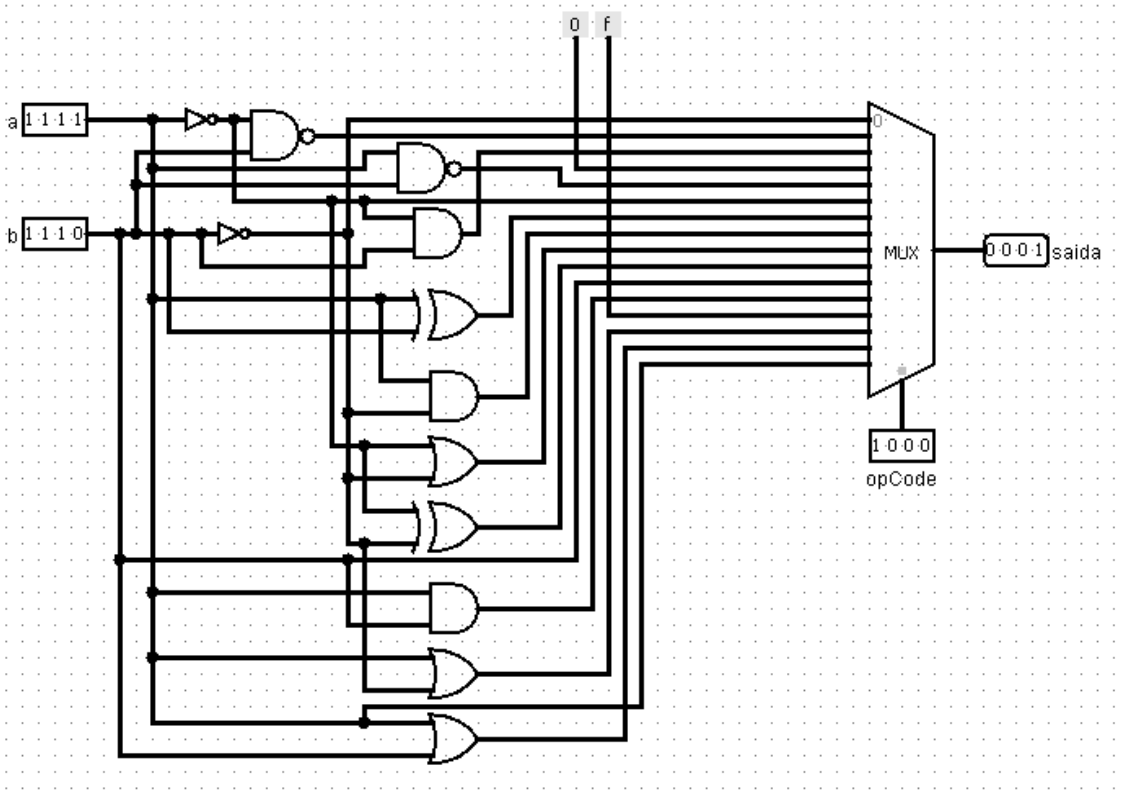
NOT(A)



AND(B,A)

Parte 2:

Instruções	Binário	Resultado da operação
450	0100 0101 0000	1010
CB1	1100 1011 0001	1100
A32	1010 0011 0010	0001
C43	1100 0100 0011	0000
124	0001 0010 0100	1111
785	0111 1000 0101	1000
9B6	1001 1011 0110	0010
CD7	1100 1101 0111	0000
FE8	1111 1110 1000	0001
649	0110 0100 1001	0010
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



<u>Pergunta:</u> Se quiséssemos testar completamente a ULA apresentada, teríamos que fazer 2^{16} testes, ou seja, nossa tabela verdade teria cerca de 65 mil linhas.