Graphical Symbols I

Please do the following exercises individually.

Graphical Symbols

Please draw the European and American symbols for NOT, AND and OR.

Switching Functions

Please design a digital circuit for the switching function ¬(A∧¬B) and create its state table.

Please design digital circuits for the switching functions A∧B∨C and (A∨¬B) ∧ ¬(C∨D).

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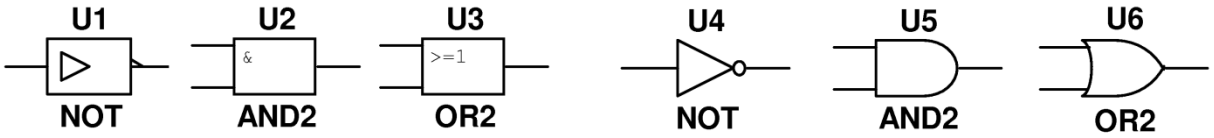
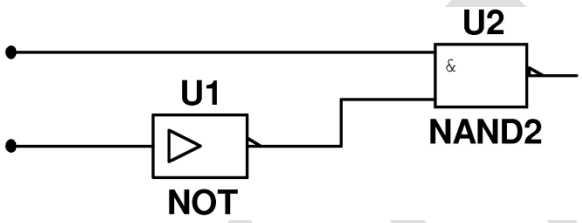


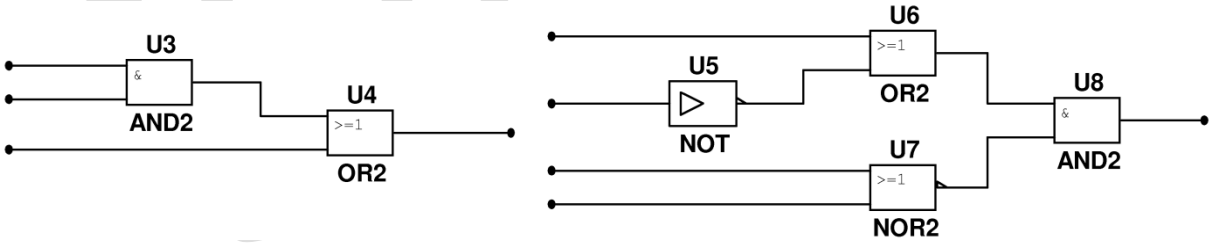
Switching Functions

Please design a digital circuit for the switching function ¬(A∧¬B) and create its state table.



A	B	ϕ(A,B)
0	0	1
0	1	1
1	0	0
1	1	1

Please design digital circuits for the switching functions A∧B∨C and (A∨¬B) ∧ ¬(C∨D).

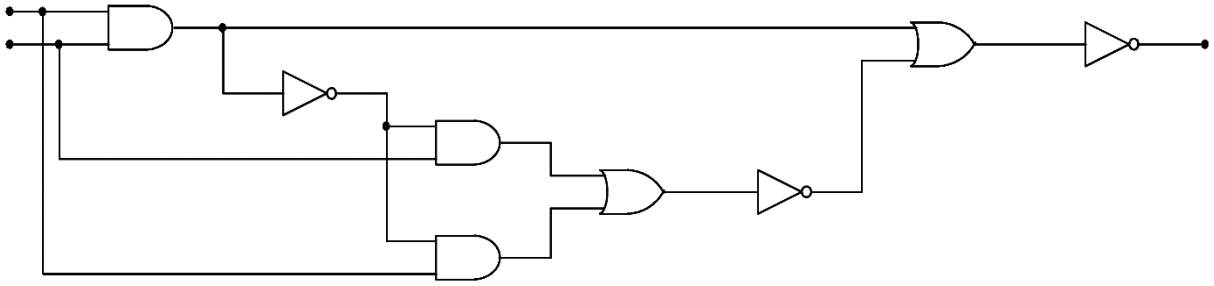


Graphical Symbols II

Please do the following optional exercise individually.

American Standard

Please draw the following circuit using European symbols and create its state table. Is there a simpler representation? Please draw it.

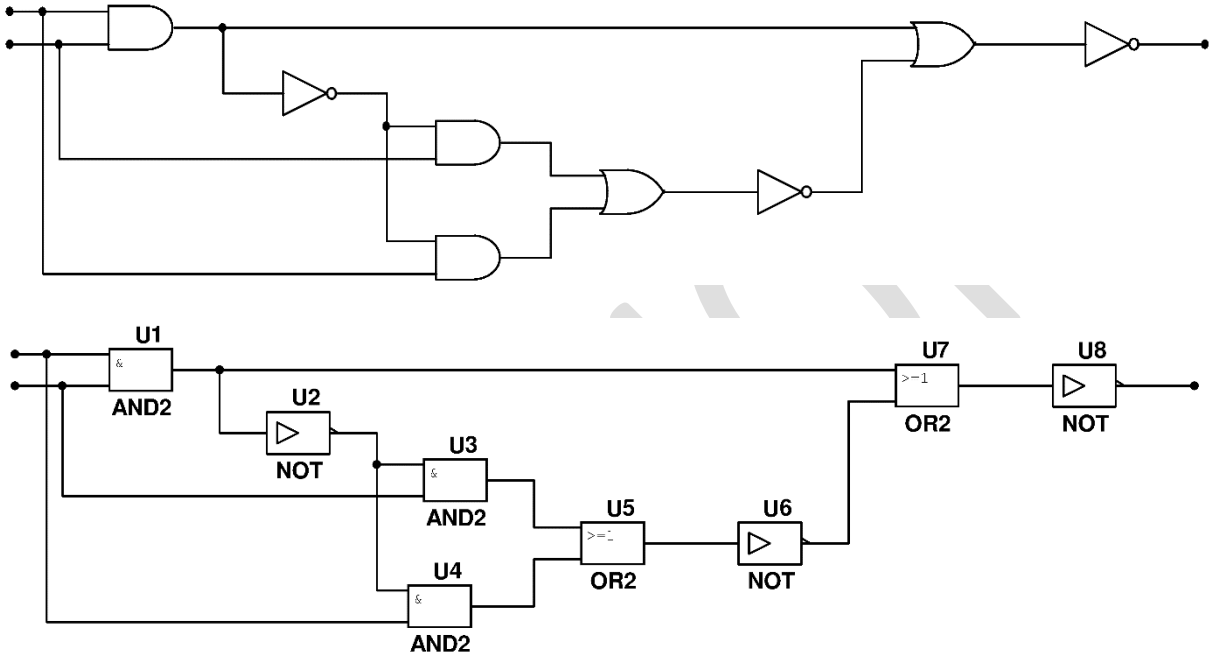


Graphical Symbols II

Please do the following optional exercise individually.

American Standard

Please draw the following circuit using European symbols and create its state table. Is there a simpler representation? Please draw it.



y(a,b) = ¬((a∧b)∨¬((¬(a∧b)∧b)∨(¬(a∧b)∧a)))

		①	②	③	④	⑤	⑥	⑦	y
a	b	a∧b	¬①	②∧b	②∧a	③∨④	¬⑤	⑥∨①	¬⑦
0	0	0	1	0	0	0	1	1	0
0	1	0	1	1	0	1	0	0	1
1	0	0	1	0	1	1	0	0	1
1	1	1	0	0	0	0	1	1	0

The result is an exclusive or.