

Formale Systeme

Week2

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<http://cs.uni-salzburg.at/~anas/teaching/FormaleSysteme/>

Equivalent propositions

Are the following equivalent? $b \wedge \neg b$ and $c \wedge \neg c$

b	c	$\neg b$	$\neg c$	$b \wedge \neg b$	$c \wedge \neg c$
0	0				
0	1				
1	0				
1	1				

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0	1	1			
1	0	0			
1	1	0			

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0	1	1	0		
1	0	0	1		
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0	1	1	0	0	
1	0	0	1	0	
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0	1	1	0	0	0
1	0	0	1	0	0
1	1	0	0	0	0

Their truth values are the same, so they are equivalent

$$b \wedge \neg b \stackrel{val}{=} c \wedge \neg c$$