Week 3

Exercises on truth tables

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1. Choose one of the pair of connectives $(\neg, \vee)$, $(\neg, \rightarrow)$, $(\neg, \leftrightarrow)$ and define all the other connectives with it.

2. The following connective is called "Sheffer's Stroke", and can be translated as "not both": $p|q$ means "not both p and q. The behaviour of this connective is explained in this truth table:

p	q	$p\|q$
1	1	0
1	0	1
0	1	1
0	0	1

   This connective is special, since with it is possible to define *all other logical connectives*. Try to do it. *Hint*: Try to keep it as simple as possible: for the negation just one Sheffer's Stroke is enough, for implication you need two, for conjunction and disjunction 3 and for biconditional 5.