

2.14.1. Translation and Truth Table Completion Problem

For each of the two English sentences below, decide which formal sentence is its proper **translation**. Then build the **truth table** for those two formal sentences.

(Are the two formal sentences logically equivalent? Do their English counterparts seem to be saying the same thing?)

- (1) We're not having both truffles and grog.
 (2) We're not having truffles, and we're not having grog.
 (3) $(\sim P \wedge \sim Q)$
 (4) $\sim(P \wedge Q)$

Negation Rule

▲	\sim ▲
1	0
0	1

Conjunction Rule

●	▲	$(\bullet \wedge \blacktriangle)$
1	1	1
1	0	0
0	1	0
0	0	0

		(4)		(3)		
P	Q	$(P \wedge Q)$	$\sim(P \wedge Q)$	$\sim P$	$\sim Q$	$(\sim P \wedge \sim Q)$
1	1					
1	0					
0	1					
0	0					