Exercise 2.1  We consider again the example $T = (W, D)$ with

\[ W = \{ \text{german} \} \text{ and } D = \left\{ \frac{\text{german}}{\text{drinksBeer}} \right\}. \]

Verify that $E = \text{Th}(\{\text{german}, \neg \text{drinksBeer}\})$ is a minimal set of formulas which

- is deductively closed,
- includes the theory’s facts, and
- is closed under the application of the defaults.

Exercise 2.2  We consider again Example 3.3 from the lecture: $T = (W, D)$ with $W = \{a\}$ and the defaults $D = \{\delta_1, \delta_2\}$, with:

\[ \delta_1 = \frac{a}{\neg b}, \text{ and } \delta_2 = \frac{b}{c}. \]

Why is $\Pi = (\delta_1, \delta_2)$ not a process?

Exercise 2.3  Prove or refute the following claim: if all defaults in $\Pi$ occur in $\Pi'$, then $\text{In}(\Pi) \subseteq \text{In}(\Pi')$ and $\text{Out}(\Pi) \subseteq \text{Out}(\Pi')$.

Exercise 2.4  Prove Lemma 3.9, i.e. show that the following holds:

let $E' \subseteq E$ and $F$ be a set of formulas closed under some set of defaults $D$ w.r.t. $E'$. Then $F$ is closed under $D$ w.r.t. $E$. 
