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**Tutorials for "Automated Reasoning II"**
**Exercise sheet 6**

**Exercise 6.1:** ( $P$)
Consider the below set of inequations and apply $\Rightarrow_{\mathrm{LIABB}}$ to it:

$$
\begin{aligned}
3y &\geq x + 3 \\
3y &\leq -5x + 15 \\
4y &\leq 9x - 8
\end{aligned}
$$

**Exercise 6.2:** ( $P$)
Consider the below set of inequations and apply $\Rightarrow_{\mathrm{LIABB}}$ to it:

$$
\begin{aligned}
3y &\geq x + 3 \\
3y &\leq -5x + 15 \\
5y &\leq 9x - 10
\end{aligned}
$$

**Exercise 6.3:** ( $P$)
Prove that $\Rightarrow_{\mathrm{LIABB}}$ is terminating.

**Exercise 6.4:** ( $P$)
Extend the $\Rightarrow_{\mathrm{LIABB}}$ calculus with learning, analogously to the way DPLL is extended to CDCL.