Handout 8

Intro Rules

∧ Intro

$$\begin{array}{c} \mathsf{P}_1 \\ \vdots \\ \mathsf{P}_n \\ \mathsf{P}_1 \wedge ... \wedge \mathsf{P}_n \end{array}$$

 \lor Intro

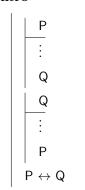
$$\begin{array}{c} \mathsf{P}_i \\ \vdots \\ \mathsf{P}_1 \vee ... \vee \mathsf{P}_i ... \vee \mathsf{P}_n \end{array}$$

 \neg Intro

 \perp Intro

ightarrow Intro

 \leftrightarrow Intro



Elim Rules

 $\wedge \ \mathbf{Elim}$

$$\begin{array}{c|c} P_1 \dots \wedge P_i \wedge \dots P_n \\ \vdots \\ P_i \end{array}$$

 \vee Elim

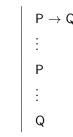
$$\begin{array}{|c|c|c|} \hline P_1 \lor ... \lor P_n \\ \hline P_1 \\ \hline \vdots \\ R \\ \hline \vdots \\ \hline P_n \\ \hline \vdots \\ R \\ R \\ \hline \end{array}$$

 \neg Elim

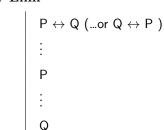
 \perp Elim

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ightarrow Elim



 \leftrightarrow Elim



Other Rules

Reiteration



Analytic Consequence "Ana Con"

This rule allows you to introduce any logical consequence of earlier steps. Because it is so powerful, Ana Con is usually restricted so that you can only to "literals"—a literal is an atomic sentence or the negation of an atomic sentence.