

1 Les règles d'inférence de la déduction naturelle

1.1 La conjonction \wedge

1.1.1 Introduction ($\wedge I$)

$$\begin{array}{l|l} 1 & \phi \\ 2 & \psi \\ \hline 3 & \phi \wedge \psi \quad (\wedge I, 1, 2) \end{array}$$

1.1.2 Élimination ($\wedge E$)

$$\begin{array}{l|l} 1 & \phi \wedge \psi \\ \hline 2 & \phi \quad (\wedge E, 1) \end{array} \qquad \begin{array}{l|l} 1 & \phi \wedge \psi \\ \hline 2 & \psi \quad (\wedge E, 1) \end{array}$$

1.2 La disjonction \vee

1.2.1 Introduction ($\vee I$)

$$\begin{array}{l|l} 1 & \phi \\ \hline 2 & \phi \vee \psi \quad (\vee I, 1) \\ 1 & \psi \\ \hline 2 & \phi \vee \psi \quad (\vee I, 1) \end{array}$$

1.2.2 Élimination ($\vee E$)

$$\begin{array}{l|l} 1 & \phi \vee \psi \\ 2 & \neg \phi \\ \hline 3 & \psi \quad (\vee E, 1, 2) \end{array} \qquad \begin{array}{l|l} 1 & \phi \vee \psi \\ 2 & \neg \psi \\ \hline 3 & \phi \quad (\vee E, 1, 2) \end{array}$$

1.3 Le conditionnel \rightarrow

1.3.1 Introduction ($\rightarrow I$)

$$\begin{array}{l|l} 1 & \phi \quad (A) \\ \vdots & \vdots \\ 2 & \psi \\ \hline 3 & \phi \rightarrow \psi \quad (\rightarrow I, 1 - 2) \end{array}$$

1.3.2 Élimination ($\rightarrow E$)

$$\begin{array}{l|l} 1 & \phi \rightarrow \psi \\ 2 & \phi \\ \hline 3 & \psi \quad (\rightarrow E, 1, 2) \end{array}$$

1.4 Le Biconditionnel \leftrightarrow

1.4.1 Introduction ($\leftrightarrow I$)

$$\begin{array}{l|l} 1 & \phi \rightarrow \psi \\ 2 & \psi \rightarrow \phi \\ \hline 3 & \phi \leftrightarrow \psi \quad (\leftrightarrow I, 1, 2) \end{array}$$

1.4.2 Élimination ($\leftrightarrow E$)

$$\begin{array}{l|l} 1 & \phi \leftrightarrow \psi \\ 2 & \phi \rightarrow \psi \quad (\leftrightarrow E, 1) \\ 1 & \phi \leftrightarrow \psi \\ 2 & \psi \rightarrow \phi \quad (\leftrightarrow E, 1) \end{array}$$

1.5 La Négation \neg

1.5.1 Introduction ($\neg I$)

$$\begin{array}{l|l} 1 & \phi \quad (A) \\ \vdots & \vdots \\ 2 & \psi \\ \vdots & \vdots \\ 3 & \neg \psi \\ \hline 4 & \neg \phi \quad (\neg I, 1 - 3) \end{array}$$

1.5.2 Élimination ($\neg E$)

$$\begin{array}{l|l} 1 & \neg \neg \phi \\ 2 & \phi \quad (\neg E, 1) \end{array}$$