

Grondslagen van de Informatica I

Formularium

Semantische Tableaus

$\neg L$	$\neg R$
$\neg\alpha$ ○ ○ α	α ○ ○ $\neg\alpha$
$\wedge L$	$\wedge R$
$\alpha \wedge \beta$ ○ ○ α, β	$\alpha \wedge \beta$ ○ / \ ○ α ○ β
$\vee L$	$\vee R$
$\alpha \vee \beta$ ○ / \ ○ α ○ β	$\alpha \vee \beta$ ○ ○ α, β
$\rightarrow L$	$\rightarrow R$
$\alpha \rightarrow \beta$ ○ / \ ○ β ○ α	$\alpha \rightarrow \beta$ ○ ○ α ○ β
$\Leftrightarrow L$	$\Leftrightarrow R$
$\alpha \Leftrightarrow \beta$ ○ / \ ○ α, β ○ α, β	$\alpha \Leftrightarrow \beta$ ○ / \ ○ α ○ β ○ α ○ β
$\forall L$	$\forall R$
$\forall x \varphi(x)$ ○ ○ $[d/x]\varphi(x)$ voor alle $d \in D$	$\forall x \varphi(x)$ ○ ○ $D' = D \cup \{d\}$ met $d \notin D$ ○ $\varphi(d)$
$\exists L$	$\exists R$
$\exists x \varphi(x)$ ○ ○ $D' = D \cup \{d\}$ met $d \notin D$ ○ $\varphi(d)$	$\exists x \varphi(x)$ ○ ○ $[d/x]\varphi(x)$ voor alle $d \in D$

Afleidingen

\wedge
$\frac{p \wedge q}{p} \wedge E \qquad \frac{p \wedge q}{q} \wedge E$ $\frac{p \quad q}{p \wedge q} \wedge I$
\vee
$\frac{p}{p \vee q} \vee I \qquad \frac{q}{p \vee q} \vee I$ $\frac{\begin{array}{c} (1) \quad p \\ \vdots \\ p \vee q \end{array} \quad \begin{array}{c} (2) \quad q \\ \vdots \\ p \vee q \end{array}}{r} \vee E[-1, -2]$
\rightarrow
$\frac{\begin{array}{c} (1) \\ p \\ \vdots \\ q \end{array}}{p \rightarrow q} \rightarrow I[-1] \qquad \frac{p \quad p \rightarrow q}{q} \rightarrow E$
\neg
$\frac{p \quad \neg p}{q} \neg E$ $\frac{\begin{array}{c} (1) \quad q \\ \vdots \\ p \end{array} \quad \begin{array}{c} (1) \quad \neg p \\ \vdots \\ \neg q \end{array}}{\neg q} \neg I[-1] \qquad \frac{\begin{array}{c} (1) \quad \neg q \\ \vdots \\ p \end{array} \quad \begin{array}{c} (1) \quad \neg p \\ \vdots \\ \neg q \end{array}}{q} \neg E * [-1]$
\forall
$\frac{\varphi(d)}{\forall x \varphi(x)} \forall I \qquad \frac{\forall x \varphi(x)}{\varphi(d)} \forall E$
\exists
$\frac{\varphi(d)}{\exists x \varphi(x)} \exists I \qquad \frac{\begin{array}{c} (1) \\ \varphi(d) \\ \vdots \\ r \end{array}}{\exists x \varphi(x)} \exists E[-1]$