Some examples from `http://scholar.princeton.edu/scuellar/blog/2014/03/deduction-trees-latex`

$$\dfrac{A \quad B}{C}\ \mathrm{d}$$

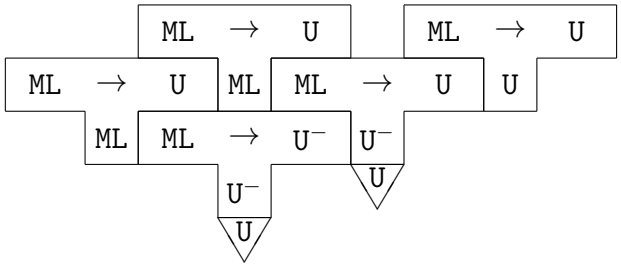
One of Demorgan's Law:

$$\dfrac{\neg\phi \vee \neg\psi \qquad \dfrac{\dfrac{\dfrac{}{\phi \wedge \psi}\,2}{\phi} \qquad \dfrac{}{\neg\phi}\,1}{\bot} \qquad \dfrac{\dfrac{\dfrac{}{\phi \wedge \psi}\,2}{\psi} \qquad \dfrac{}{\neg\psi}\,1}{\bot}}{\dfrac{\bot}{\neg(\phi \wedge \psi)}}\,2$$

Example from the `semantic` package documentation: For the case where every expression is to be evaluated in an environment giving a value, and you would like to set all the environment's values in mathematics and the expressions in typewriter font:

$$\mathrm{TlR}\dfrac{D \vdash\ s \overset{v}{\Rightarrow}_S s' \qquad D \vdash\ s \overset{v'}{\Rightarrow}_S s''}{D \vdash\ \texttt{Tl}(s) \overset{v'}{\Rightarrow}_S s''}$$

Example of a T-diagram from the package documentation:



See the documentation at `http://texdoc.net/pkg/semantic` for more information.