The \textbf{proof} package* \\
Proof figure macros \\
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Nov 24, 2005

1 Usage: 

In \texttt{documentstyle}, specify an optional style ‘proof’, say, 
\texttt{documentstyle[proof]{article}}.

The following macros are available:

In all the following macros, all the arguments such as \texttt{(Lowers)} and \texttt{(Uppers)}
are processed in math mode.

\begin{verbatim}
\infer{〈Lower〉}{〈Uppers〉} \text{ draws an inference.}
\end{verbatim}

Use & in \texttt{(Uppers)} to delimit upper formulae. \texttt{(Uppers)} consists more
than 0 formulae.

\begin{verbatim}
\infer\[ 〈Label〉\]}{〈Lower〉}{〈Uppers〉} \text{ draws an inference labeled with } 〈Label〉.
\end{verbatim}

\begin{verbatim}
\infer*[〈Label〉]{〈Lower〉}{〈Uppers〉} \text{ draws a many step deduction.}
\end{verbatim}

\begin{verbatim}
\infer*[〈Label〉]{〈Lower〉}{〈Uppers〉} \text{ draws a many step deduction labeled with } 〈Label〉.
\end{verbatim}

*This manual corresponds to \texttt{proof.sty} v3.1 (for both \LaTeX \texttt{2.09} and \LaTeX \texttt{2ε}), dated Nov
24, 2005.

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\infer\{\langle Lower\rangle\}\{\langle Uppers\rangle\} draws a double-ruled deduction.
\infer\{\langle Label\rangle\}\{\langle Lower\rangle\}\{\langle Uppers\rangle\} draws a double-ruled deduction labeled with \langle Label\rangle.
\deduce\{\langle Lower\rangle\}\{\langle Uppers\rangle\} draws an inference without a rule.
\deduce\{\langle Proof\rangle\}\{\langle Lower\rangle\}\{\langle Uppers\rangle\} draws a many step deduction with a proof name.

2 Example:

If you want to write

\[
\begin{array}{c}
A \\
\hline
B & C \\
\hline
D \\
E \\
\end{array}
\]

use

\infer{E}\
{A} & \infer{D}{B \& C}