I’m trying to show that $\vdash P \land Q \rightarrow P \lor Q$.

Just as a reminder: $P \land Q \rightarrow P \lor Q$ is short for $((P \land Q) \rightarrow (P \lor Q))$ according to the Bracketing Conventions.
\( P \land Q \) Since the sentence to be proved is of the form \( \phi \rightarrow \psi \), I may hope to get it by \( \rightarrow \)Intro. Thus I assume \( P \land Q \) and try to obtain \( P \lor Q \) from it.
\[ \frac{P \land Q}{P} \quad \text{An application of } \land\text{Elim1 gives us } P. \]
An application of $\lor$Intro1 gives me $P \lor Q$. 

$$
\frac{P \land Q}{P} \\
\frac{P}{P \lor Q}
$$
\[ \begin{array}{c}
\vdash P \land Q \rightarrow P \lor Q \\

\frac{[P \land Q]}{P} \\
\frac{P \lor Q}{P \land Q \rightarrow P \lor Q}
\end{array} \]

Finally I get \( P \land Q \rightarrow P \lor Q \) by \( \rightarrow \text{Intro} \). The assumption \( P \land Q \) is discharged according to \( \rightarrow \text{Intro} \).