About Dropping Parentheses

Although I am not planning to test you on the correct application of the **parenthesis-dropping convention** (text, pp. 9-10), the exercises in the text often use it. Here's a quick guide to putting back in parentheses that have been dropped.

Rule 0: The outside parentheses on wffs always get dropped, so you can always add them (**exception:** remember that there are no outside parentheses that accompany $\sim$).

Rule 1: Never add a parenthesis that comes between a $\sim$ and anything else.

Rule 2: You may add parentheses around $\&$ or $\vee$ and the wffs they connect.

These three rules will get you through most of the problematic cases.

Examples:

$$\sim P \vee Q \rightarrow R$$

Add parentheses around the $\vee$, but don't come between $\sim$ and anything:

$$(\sim P \vee Q) \rightarrow R$$

Add a pair on the outside:

$$((\sim P \vee Q) \rightarrow R)$$

$$Q \& \sim R \leftrightarrow P \vee S$$

Add parentheses around $\&$ and $\vee$, but don't come between $\sim$ and anything:

$$(Q \& \sim R) \leftrightarrow (P \vee S)$$

And add them on the outside:

$$((Q \& \sim R) \leftrightarrow (P \vee S))$$