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Here's what my user-defined commands do:

- $\mathbb{R}, \mathbb{C}, \mathbb{Z}, \mathbb{Q}, \emptyset$
- $\mathbf{A}^{-1}, \|\mathbf{A}\|$
- $\text{id} : \mathbf{x} \mapsto \mathbf{x}$
- $\bar{z} = \text{Re}(z) - i \text{Im}(z)$
- $\bar{X} = X \cup \partial X$
- Compare the previous two with $\bar{z}$ and $\bar{X}$; for complex conjugate, the “bar” command is all right, but it’s too small for closure.
- Compare $\tilde{x}$ and $\tilde{AB}$ with $\widetilde{x}$ and $\widetilde{AB}$.

See Remark 3, below, about numbering theorem environments.

Theorem 1. *This is Theorem 1.*

Corollary 2. *This is Corollary 2. It follows Theorem 1.*

Remark 3. *Now you see the effect of numbering theorem environments consecutively. Doing so makes it easier to find them when you reference them elsewhere in a paper.*

In the “amsart” document class, you can also change the styles of various theorem environments; for example, if you don’t want remarks italicized, but you do want to keep them in the numbering system. Ask me for more info.

Grätzer leads you pretty well through the labeling process (though maybe not in chapter 1; I don’t remember). It’s another invaluable feature of L^AT_EX, and it’s good to get in the habit of labeling almost everything, so that you can refer to it elsewhere in the paper without worrying about what the reference number will end up being. You can label equations, too, as in Equation (1) below.

$$S^1 = \left\{ \begin{pmatrix} x \\ y \end{pmatrix} \in \mathbb{R}^2 \mid x^2 + y^2 = 1 \right\} \quad (1)$$