Hints for Writing Specifications

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Based on my experience in teaching formal methods to practicing and aspiring software engineers, I present some of the common stumbling blocks faced when writing formal specifications. I've broadly categorized the issues along the following dimensions:

- Figuring out *why* you are going through this specification effort. What do you hope to get out of using formalism?

- Figuring out *what* of the system you want *to specify*.

- Figuring out *how* to specify. The most important hurdle to overcome is learning to abstract. I also give specific suggestions on how to make incremental progress when writing a specification.

- Figuring out *what to write down*. Learn a formal method's set of conventions but do not feel constrained by them. Also, we all make logical errors sometimes; I point out some common troublespots in getting the details of a specification right.

I address all these issues by giving hints to specifiers. My talk should be of interest not only to teachers of formal methods but also to their students.