关于 Maple Algebra 的这一路

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Definition 1.1. A labelled transition system is a tuple $(S, \Lambda, \rightarrow)$ where S is set of states, Λ is set of labels, and $\rightarrow$ is relation of labelled transitions (i.e., a subset of $S \times \Lambda \times S$). A $(p, \alpha, q) \in \rightarrow$ is written as $p \xrightarrow{\alpha} q$.

Annotation 1.2. TODO: categorical semantics: F-coalgebra

Definition 1.3. Let $T = (S, \Lambda, \rightarrow)$ be a labelled transition system. The set of traces $Tr(s)$, for $s \in S$ is the minimal set satisfying

- $\varepsilon \in Tr(s)$.

- $\alpha \, \sigma \in Tr(s)$ if $\{ s' \in S \mid s \xrightarrow{\alpha} s' \text{ and } \sigma \in Tr(s') \}$.

Definition 1.4. A binary relation between state transition systems, associating systems that behave in the same way in that one system simulates the other and vice versa.