Properties

- **The scanner never crashes and always terminates:**
  In code the FSM is simply a huge `if/else if/else` statement that covers every possible case. Syntax errors fall through to the `else` case.

- **The scanner is good at forgetting:**
  As soon as the scanner reaches a state it has been in before everything in between is forgotten.

- **Correctness:**
  The state space of a machine is usually huge or even infinite and therefore reasoning about it is hard. An FSM however has only very few states (finitely many) and reasoning about them is much easier.

Properties

- **The scanner can not recognize structure:**
  It just operates on a sequence of characters and turns it into a sequence of symbols.
  To recognize structure, the scanner would need to be able to **count and remember** (e.g. the number of braces).

  Therefore we need something more powerful called a parser.

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