Deciders and Decidability

- The class **R** consists of all decidable languages.
- Formally speaking:

  R = { L | L is a language and there's a decider for L }

- You can think of **R** as "all problems with yes/no answers that can be fully solved by computers."
  - Given a decidable language, run a decider for L and see what happens.
  - Think of this as "knowledge creation" – if you don't know whether a string is in L, running the decider will, given enough time, tell you.
- The class **R** contains all the regular languages, all the context-free languages, most of CS161, etc.
- This is a "strong" notion of solving a problem.