

## Great Ideas of CS 360

1. A real computer can be modeled by a mathematical object: a theoretical computer.
2. A formal language is a set of strings, and can represent a computational problem.
3. A formal language can be described in many different ways that ultimately prove to be identical.
4. Simulation: the relative power of computing models can be based on the ease with which one model can simulate another.

5. Robustness of a computational model: minor changes should not affect computational power.
6. The Church-Turing thesis: anything that can be computed can be computed by a Turing machine.
7. Nondeterminism: languages can be described by the existence or nonexistence of computational paths.
8. Unsolvability: for some computational problems there is no corresponding algorithm that will unerringly solve them.
9. Resource-bounded computation: putting limits on time and space restricts the class of problems that can be solved.