Two of the central concepts developed so far are

- *model checking*: given a formula ϕ of predicate logic and a matching model $\mathcal{M}$ determine whether $\mathcal{M} \vDash \phi$ holds; and
- *semantic entailment*: given a set of formulas Γ of predicate logic, is $\Gamma \vDash \phi$ valid?

Software Specification & Validation

Γ: Requirements imposed on the s/w design

ϕ: Desired property in any implementation that meets the requirements in Γ