Overview of HOL

- Types

  num $bool$ $real$ $string$

  $num \times bool$ $num \rightarrow bool$ $num \rightarrow num$

  $\alpha \rightarrow \alpha$ $(\alpha)\,list$ $(\alpha \rightarrow bool) \rightarrow bool$

- Terms

n	Suc	Suc n	λn. Suc n
var	const	app	abs

- Formulae (Boolean terms)

  `∀P.`
  `P 0 ∧ (∀n. P n ⇒ P(Suc n)) ⇒ ∀n. P n`

- Constants

  `Suc` has type $num \rightarrow num$

  `∧` has type $bool \rightarrow (bool \rightarrow bool)$

  `A ∧ B` abbreviates `∧ A B`

  `∀` has type $(\alpha \rightarrow bool) \rightarrow bool$

  `∀x. P(x)` abbreviates `∀(λx. P(x))`