

Programming Algebra

Roland Backhouse
January 29, 2001

Outline

- Fixed Points.
- Topics.

Examples

Languages

$$\begin{aligned} \langle Expression \rangle & ::= \langle Expression \rangle + \langle Expression \rangle \\ & | (\langle Expression \rangle) \\ & | \langle Variable \rangle \end{aligned}$$

Functions

$$fac.0 = 1$$

$$fac.n = n * fac.(n-1), \text{ for } n > 0.$$

Datatypes

List a = Nil | Cons a (List a)

Issues

- When?
- Calculation.
- Uniqueness.