

Orders via Functions and Logic

Nikita Danilenko

Institut für Informatik, CAU Kiel, D-24098 Kiel

`nda@informatik.uni-kiel.de`

Several well-known orders like divisibility of integers or the prefix-of-order on lists are based upon the very same combination of an algebraic operation and a logical statement. We demonstrate the abstraction behind this concept and show that every order can be constructed in this way. We sketch how this construction can be used to study specific order properties. Finally we use the algebraic specification for a prototypical implementation in a functional logical language.