Abstract

A limit of a class of structures is an object which captures the asymptotic properties of the class. In this thesis we examine several methods of construction of such objects. We present the necessary theory for each method and then explore a few examples for the sake of a comparison. The methods we chose to examine are Fraïssé's amalgamation, a method based on the compactness theorem and a variant of the forcing method.

Regarding Fraïssé's amalgamation, we prove that Fraïssé's limit of finite linear orders with one unary predicate without any restrictions is isomorphic to rational numbers with a dense and co-dense unary predicate. Regarding the second method, we utilize Ehrenfeucht-Fraïssé games to prove that all models of the limit theory are elementarily equivalent and we observe that it is possible to avoid contact with infinite objects, should we choose to analyze the limit further. In the third main chapter we provide some basic results about the enforceability of predicate density in two types of classes of finite linear orders with a unary predicate.