

An Introduction to Generic Computability

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Program

1. Asymptotic density and the basic definitions.
2. Relative computability and Turing degrees. Some basic examples.
3. Generic-case complexity. The basic “Quotient Method” in geometric group theory and some important corollaries.
4. Amenable groups and generic-case complexity.
5. A few concepts from recursive function theory.
6. The Osin-Miasnikov construction of a finitely generated group whose word problem is not generically computable.
7. The idea of coarse computability.
8. A generically computable set S such that any generic algorithm for S must have noncomputable domain.
9. There are no minimal pairs for relative generic computability.
10. The general idea of generic reducibility. The Turing degrees properly embed into the generic degrees.