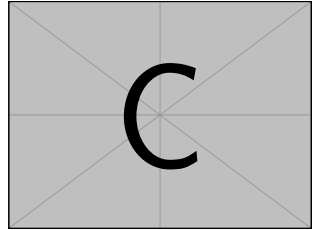


Proof Theory



Introduction

Principal tasks of proof theory [1]

1. to formulate systems of logic and sets of axioms which are appropriate for formalizing mathematical proofs and to characterize what results follow from certain axioms;
2. to study the structure of formal proofs (normal forms, syntactic facts);
3. to study additional information can be extracted from proofs beyond the truth of the theorem being proved (computational or constructive information);
4. to study how best to construct formal proofs by a computer.

Bye

- [1] Samuel R Buss. *Handbook of proof theory*. Vol. 137. Elsevier, 1998.