

tcp.1 Introduction

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sec

We have the following:

1. A definition of what it means for a function to be representable in \mathbf{Q} (??)
2. a definition of what it means for a relation to be representable in \mathbf{Q} (??)
3. a theorem asserting that the representable functions of \mathbf{Q} are exactly the computable ones (??)
4. a theorem asserting that the representable relations of \mathbf{Q} are exactly the computable ones ??)

A *theory* is a set of sentences that is deductively closed, that is, with the property that whenever T proves φ then φ is in T . It is probably best to think of a theory as being a collection of sentences, together with all the things that these sentences imply. From now on, I will use \mathbf{Q} to refer to the *theory* consisting of the set of sentences derivable from the eight axioms in ???. Remember that we can code formula of \mathbf{Q} as numbers; if φ is such a formula, let $\# \varphi$ denote the number coding φ . Modulo this coding, we can now ask whether various sets of formulas are computable or not.

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Bibliography