tcp.1 Introduction

We have the following:

1. A definition of what it means for a function to be representable in \(Q\) (??)
2. A definition of what it means for a relation to be representable in \(Q\) (??)
3. A theorem asserting that the representable functions of \(Q\) are exactly the computable ones (??)
4. A theorem asserting that the representable relations of \(Q\) 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 \(\varphi\) then \(\varphi\) 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, we will use \(Q\) to refer to the theory consisting of the set of sentences derivable from the eight axioms in ??.

Remember that we can code formula of \(Q\) as numbers; if \(\varphi\) is such a formula, let \(\#\varphi\#\) denote the number coding \(\varphi\). Modulo this coding, we can now ask whether various sets of formulas are computable or not.

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Bibliography