For many computational complexity classes there are weak theories of arithmetic characterizing them, i.e., theories whose provably total functions coincide with the class in question. This paper defines such a theory for the class LOGCFL = SAC^1. The definition of the theory is very technical, using generalized quantifiers that express accceptance of the computation of an SAC^1- circuit. The proof uses general conditions for a theory to characterize a complexity class given by Kolokolova [1]. The main technical part of the proof consists in formalizing in the theory the proof of the closure of SAC^1 under complementation [2].

References

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