

LOGIKSEMINARIET STOCKHOLM–UPPSALA

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A random formula lower bound for ordered-DLL extended with local symmetries. Part 2.

We consider extensions of the well known DLL-algorithms for the satisfiability problem in propositional logic. It is a well known open problem whether there exists even just a subexponential algorithm for the satisfiability problem. Extensions of DLL can usually be proven to not be subexponential. We consider the question whether there is an extension of DLL that is subexponential for a *random* formula. Previous results shows that this is not the case for simple ordered-DLL. We reprove this result, in a stronger form, for a random formula model in which previous results regarding symmetries have been proven. Thus the lower bound for ordered-DLL may be combined with a result of non-existence of symmetries. This yields a lower bound for ordered-DLL with recognition of *global* symmetries. Furthermore we show that the stronger form of our lower bound allows us also to achieve essentially the same lower bound even with arbitrary recognition of *local* symmetries.

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sal 2215, MIC, Polacksbacken, Uppsala.

Logikseminariets hemsida:
<http://www.math.su.se/matematik/forskning/logik/>