TWO PERSONAL COMPUTER LOGICS

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Finite domains with 2^{16} and 2^{32} elements for program correctness are proposed. In the humanitarian applications it is sufficient to use individual domains consisting of not more than million, milliard, billion, ets. elements.

Upper bound of the complexity of the decidability algorithm for the proposed logics may belong to the class P-SPACE. Hence its time complexity is characterized by the class EXP-TIME. More detail analysis of the deciding algorithm allows to claim that it belongs to the class LIN-SPACE and consequently to the class EXP-LIN-TIME.

Theorem. For every k, m if $k > 1$ and $m > 2$ then the problem of decidability of the classic predicate logic of the order k upon individual domain containing not more than m elements, functions and predicates is a P-SPACE-complete problem and the decision algorithm belongs to the class LIN-SPACE and consequently to EXP-LIN-TIME.

Analogous theorem may be proved for the same logics with equality.

The work is supported by the federal grant "Integration" with registration number AO-145.