Article: Deduction in Non-Horn Databases.

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[Hide abstract] **ABSTRACT:** The class of non-Horn, function-free databases is investigated and several aspects of the problem of using theorem proving techniques for such databases are considered. This includes exploring the treatment of negative information and extending the existing method, suggested by Minker, to accept non-unit negative clauses. It is shown that the algorithms based on the existing methods for the treatment of negative information can be highly inefficient. An alternative approach is suggested and a simpler algorithm based on it is given. The problems associated with query answering in non-Horn databases are addressed and compared with those for the Horn case. It is shown that the query evaluation process can be computationaly difficult in the general case. Conditions under which the process is simplified are discussed. The topic of non-Horn general laws is considered and some guidelines are suggested to divide such laws into derivation rules and integrity constraints. The effect of such a division on the query evaluation process is discussed.