

Abstract:

Codd proposed the use of two interpretations of nulls to handle missing information in relational databases that may lead to a 4-valued logic [Codd86, Codd87]. In a more general model, three interpretations of nulls are necessary [Roth, Zani]. Without simplification, this may lead to a 7-valued logic, which is too complicated to be adopted in relational databases. For such a model, there is no satisfactory simplification to a 4-valued logic. However, by making a straightforward simplification and using some proposed logical functions, a 3-valued logic can handle all three interpretations.

Citation:

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