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Two misleading paradigms in relational database model. (English) Zbl 0862.68036

Summary: Since relational model was presented by Codd in 1970, it has been widely used as a basic framework of database theory and also as a guideline for database systems design. Relational model presented a formal basis of data modeling such as normal forms and dependency theories on one hand, and proposed two alternative tools, relational calculus and relational algebra, to be used in data manipulation on the other hand. It is sure that the both were very important aspects, and had stimulated many database researchers to evolve modern database theories. However, each of the two includes a major misleading paradigm though not many researchers were aware of these deficiencies. One is that the final goal of database design is to obtain relation schemata in certain normal forms, whereas the other is that any data manipulation must be achieved by a series of relational algebra operations. These paradigms seem to still dominate in database community implicitly or explicitly. This paper is to discuss why these are misleading paradigms, and to introduce somewhat different paradigms to replace them.

For the entire collection see [Zbl 0853.00020].

MSC:

68P15 Database theory