Temporal database models and their properties

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A comparative analysis among modern database systems shows that most of them hold the only state — the current one of the domain objects and belongs to the class of relational databases. It is noted that relational databases are non-temporal and they store the only state — the last one of the object. Under the influence of external factors, these objects change over time and it is necessary to register the various states of the objects. Based on the analysis of the existing models of temporal databases and their basic properties are defined models and approaches to optimal solution of the data processing problems with variable data structure in information systems. A class of models, which translate non-temporal databases to the temporal ones, is single out. The methods of the query to the time-varying data, and maintain their integrity were considered.

Keywords: *temporal database, relational database, SQL query, a multidimensional space, temporal data, the non-temporal data, relationships, operators, sets, structure of database, data structure.*

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