K.S. Duisebekova, L.S. Kopbossyn

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Textbook

Approved by the Ministry of Education and Science,
Republican scientific and practical center "Textbook"

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The textbook examines the basic concepts from the field of database systems, describes the functions of the database and DBMS, the data properties supported in the database, the languages used, the levels of data representation. A number of data models are presented: hierarchical, network, relational, etc. Definitions of the process of normalizing relations for the relational model, relational algebra, the language of SQL and QBE queries, and the tools for the physical organization of databases are introduced. As well as modern database technologies such as data warehouses, OLAP technology, multidimensional modeling, web database implementation technologies, Big Data.

Describes the capabilities of Microsoft SQL Server and Microsoft Visual Studio, which support powerful tools for visual design of databases and information applications. Examples of database development using Microsoft SQL Server are given.

The textbook is intended for students studying in the bachelor's degree in specialty 5B070300 "Information Systems", as well as for students of other specialties studying disciplines related to the design and operation of database systems and databases.