

11ED Glossary

Chapter 1

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| ad hoc query | A spur-of-the-moment question. |
| analytical database | A database focused primarily on storing historical data and business metrics used exclusively for tactical or strategic decision making. |
| business intelligence | A comprehensive, cohesive, and integrated set of tools and processes used to capture, collect, integrate, store, and analyze data with the purpose of generating and presenting information to support business decision making. |
| centralized database | A database located at a single site. |
| cloud database | A database that is created and maintained using cloud services, such as Microsoft Azure or Amazon's AWS. |
| data | Raw facts, or facts that have not yet been processed to reveal their meaning to the end user. |
| data anomaly | A data abnormality in which inconsistent changes have been made to a database. For example, an employee moves, but the address change is not corrected in all files in the database. |
| data dependence | A data condition in which data representation and manipulation are dependent on the physical data storage characteristics. |
| data dictionary | A DBMS component that stores metadata?data about data. Thus, the data dictionary contains the data definition as well as their characteristics and relationships. A data dictionary may also include data that are external to the DBMS. Also known as an information resource dictionary. |
| data inconsistency | A condition in which different versions of the same data yield different results. |
| data independence | A condition in which data access is unaffected by changes in the physical data storage characteristics. |
| data integrity | In a relational database, a condition in which the data in the database comply with all entity and referential integrity constraints. |
| data management | A process that focuses on data collection, storage, and retrieval. Common data management functions include addition, deletion, modification, and listing. |
| data processing manager | A DP specialist who evolved into a department supervisor. Roles include managing technical and human resources, supervising senior programmers, and troubleshooting the program. |
| data quality | A comprehensive approach to ensuring the accuracy, validity, and timeliness of data. |
| data redundancy | A condition in which a data environment contains redundant data. |
| data warehouse | An integrated, subject-oriented, time-variant, nonvolatile collection of data that provides support for decision making, according to Bill Inmon, the acknowledged ?father of the data warehouse.? |
| database | A shared, integrated computer structure that houses a collection of related data. A database contains two types of data: end-user data and metadata. The metadata consist of data about data?that is, the data characteristics and relationships. |
| database design | The process that yields the description of the database structure and determines the database components. Database design is the second phase of the Database Life Cycle. |
| database management | The collection of programs that manages the database structure and controls access to the data stored in the database. |

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| system (DBMS) | |
| database system | An organization of components that defines and regulates the collection, storage, management, and use of data in a database environment. |
| desktop database | A single-user database that runs on a personal computer. |
| discipline-specific database | A database that contains data focused on specific subject areas. |
| distributed database | A logically related database that is stored in two or more physically independent sites. |
| enterprise database | The overall company data representation, which provides support for present and expected future needs. |
| Extensible Markup Language (XML) | A metalanguage used to represent and manipulate data elements. Unlike other markup languages, XML permits the manipulation of a document's data elements. XML facilitates the exchange of structured documents such as orders and invoices over the Internet. |
| field | An alphabetic or numeric character or group of characters that defines a characteristic of a person, place, or thing. For example, a person's Social Security number, address, phone number, and bank balance all constitute fields. |
| file | A named collection of related records. |
| general-purpose database | A database that contains a wide variety of data used in multiple disciplines?for example, a census database that contains general demographic data, or the LexisNexis and ProQuest databases that contain newspaper, magazine, and journal articles for a variety of topics. |
| information | The result of processing raw data to reveal its meaning. Information consists of transformed data and facilitates decision making. |
| islands of information | In the old file system environment, pools of independent, often duplicated, and inconsistent data created and managed by different departments. |
| knowledge | The body of information and facts about a specific subject. Knowledge implies familiarity, awareness, and understanding of information as it applies to an environment. A key characteristic is that new knowledge can be derived from old knowledge. |
| logical data format | The way a person views data. |
| metadata | Data about data; that is, data about data characteristics and relationships. |
| multiuser database | A database that supports multiple concurrent users. |
| NoSQL | A new generation of database management systems that is not based on the traditional relational database model. |
| online analytical processing (OLAP) | Decision support system tools that use multidimensional data analysis techniques. OLAP creates an advanced data analysis environment that supports decision making, business modeling, and operations research. |
| online transaction processing (OLTP) | The systems that support a company's day-to-day operations. Databases that support OLTP are known as OLTP databases, transactional databases, or operational databases. |
| operational database | A database designed primarily to support a company's day-to-day operations. |
| performance tuning | Activities that make a database perform more efficiently in terms of storage and access speed. |

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| physical data format | The way a computer sees data. |
| query | A question or task asked by an end user of a database in the form of SQL code. A specific request for data manipulation issued by the end user or the application to the DBMS. |
| query language | A nonprocedural language that is used by a DBMS to manipulate its data. An example of a query language is SQL. |
| query result set | The collection of data rows returned by a query. |
| record | A collection of related fields. |
| semistructured data | Data that have already been processed to some extent. |
| single-user database | A database that supports only one user at a time. |
| social media | Web and mobile technologies that enable "anywhere, anytime, always on" human interactions. |
| structural dependence | A data characteristic in which a change in the database schema affects data access, thus requiring changes in all access programs. |
| structural independence | A data characteristic in which changes in the database schema do not affect data access. |
| structured data | Unstructured data that have been formatted to facilitate storage, use, and information generation. |
| Structured Query Language (SQL) | A powerful and flexible relational database language composed of commands that enable users to create database and table structures, perform various types of data manipulation and data administration, and query the database to extract useful information. |
| transactional database | A database designed to keep track of the day-to-day transactions of an organization. |
| unstructured data | Data that exist in their original, raw state; that is, in the format in which they were collected. |
| workgroup database | A multiuser database that usually supports fewer than 50 users or is used for a specific department in an organization. |
| XML database | A database system that stores and manages semistructured XML data. |