


# What is a database?

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There are many definitions of the term "database" and one of the most common one is that the database is a collection of information/ knowledge stored in digital format.

The database can be in form of a flat text file or can be a relational database.

The term "database" is used to describe both the collection of data and the software tool used to manage the data (i.e. DBMS).



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Databases are used in most of the modern software applications. Databases provide the means of storing data, accessible simultaneously by many users.


Databases use a programming language called SQL (Structured Query Language), which makes accessing and storing relational data very easy.

# What is RDBMS?

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RDBMS stands for Relational Database Management System. RDBMS data is structured in database tables, fields and records. Each RDBMS table consists of database table rows. Each database table row consists of one or more database table fields.

RDBMS store the data into collection of tables, which might be related by common fields (database table columns). RDBMS also provide relational operators to manipulate the data stored into the database tables. Most RDBMS use SQL as database query language.



Edgar Codd introduced the relational database model. Many modern DBMS do not conform to the Codd's definition of a RDBMS, but nonetheless they are still considered to be RDBMS.

The most popular RDBMS are **MS SQL Server, DB2, Oracle** and **MySQL**.




# What is SQL?

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SQL stands for Structured Query Language. SQL language is used to create, transform and retrieve information from RDBMS. SQL is pronounced SEQUEL. SQL was developed during the early 70's at IBM.


SQL is a declarative programming language designed for creating and querying relational database management systems. SQL is relatively simple language, but it's also very powerful.



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SQL can insert, modify data in existing database tables. SQL can delete data from SQL database tables. Finally SQL can modify the database structure itself – create/ modify/ delete tables and other database objects.

SQL uses set of commands to manipulate the data in relational databases. For example SQL INSERT is used to insert data in database tables. SQL SELECT command is used to retrieve data from one or more database tables. SQL UPDATE is used to modify existing database records.



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Most RDBMS like MS SQL Server, MS Access, Oracle, MySQL, DB2, Sybase, PostgreSQL and Informix use SQL as a database querying language. Even though SQL is defined by both ISO and ANSI there are many SQL implementation, which do not fully comply with those definitions. Some of these SQL implementations are proprietary. Examples of these SQL dialects are MS SQL Server specific version of the SQL called T-SQL and Oracle version of SQL called PL/SQL.