**Key Terms**

* **alternate key** A field with values that are not chosen as a primary key, but can be used in cases where the primary key is not available.
* **attribute**A characteristic or variable that describes or further identifies an entity.
* **buffer manager** A portion of the SQL Server responsible for accessing data pages and updating the database.
* **buffer pool (buffer cache)** The area where data pages from a database are stored to minimize the need to read and write from the database file located on the hard disk.
* **caching** The process of saving a duplicate of the requested data to another area of a system in hopes of saving resources and speeding up the future requests for that same data.
* **candidate key** A field with values that meet the requirements for a primary key.
* **column (field)** The component of a table that maintains a general category of information with similar datatypes.
* **commit** To make a change within a DBMS that is permanent and visible to other users.
* **composite key** A group of two or more fields where their values can be combined to be used as a primary key.
* **concurrency** The simultaneous access of resources and data.
* **control file** A file within a database that contains the location and important credentialing information of other files.
* **database**A collection of data stored on a computer using an application called a database management system.
* **database connection manager** Manages connections to the MySQL server.
* **database management system (DBMS)** An application that allows users to search stored data in order to locate specific information.
* **database model** A representation of the way data is stored.
* **datafile** A file that contains the actual data for the database and holds the information for all logical structures (tables, records, etc.) within the database.
* **deadlock** A situation when two transactions cannot proceed because each user has data that the other needs.
* **entity**A person, place, or thing stored within the table of a database and for which attributes and relationships exist.
* **fiber** A subcomponent of a thread, which is handled by the server to accomplish a task.
* **filegroup**A collection of one or more physical data files within a SQL Server database.
* **flat model** A two-dimensional list of data entries, where all data within a field are understood to be similar, and all data within a record are understood to be related to one another.
* **foreign key**A field within a table that contains a label used to build a relationship between two tables.
* **hierarchical database structure** A treelike storage schema that represents records and relationships through the use of tiers and parent-child relationships.
* **instance**A broad term that refers to the background processes and structured memory used during interaction with the database.
* **key** A single field or group of fields used to identify an entry in a table.
* **lock** A mechanism within a DBMS that controls concurrency by preventing users from taking hold of data until changes being made are completed or committed.
* **log file** A file that stores information about the transactions in the database to be used for recovery and backup.
* **memory target** The reserved space for the buffer cache.
* **network database model** A treelike structure that stores information in the form of a hierarchy, using tiers and parent-child-like entities to represent relationships.
* **online analytical processing (OLAP), (decision support systems [DSS])** Databases that store large volumes of historical data for report generating and analyzing.
* **online transaction processing (OLTP) database** A database that is created for real-time storage and manipulation of data within an organization.
* **open source** A term that refers to software that has been written to be distributed for use and downloaded free of charge.
* **optimization** The process of locating the quickest and most efficient way to retrieve the data being requested by a user.
* **page**A fixed unit of storage that is transferred or swapped from one storage device to another.
* **pagefile**The dedicated swap space for a page.
* **parallel processing** When more than one server processes one query at the same time.
* **parsing** The act of analyzing a construction of a query for correct syntax and semantics.
* **point of sales (POS) system** A system that is meant to handle cash register or sales transactions.
* **primary data file** The main data file for an SQL Server database which is the file of origin for the entire database and references all other secondary data files.
* **primary filegroup** The collection of files that contains all of the SQL Server system files, including the primary data files.
* **primary key** A field that contains a unique label by which we can identify a record or row in a table.
* **process** A set of instructions that is executed by the operating system intended to complete a task.
* **Process Global Area (PGA)** The central area where information is stored for background and server processes. It allocates space for each individual background process.
* **query** A search initiated by a user in an attempt to retrieve certain information from a database.
* **query cache** A memory component that plays a role in ensuring that query processing is successful.
* **query engine** A component of the architecture that optimizes and manages queries and SQL statements.
* **query management** The steps taken by a database management application to process a user query.
* **read consistency** A term that refers to the accuracy and reliability of data within a database.
* **redo log** A file within a database that contains information regarding all changes made to the data within the database.
* **relational database** A storage model in which common entities are stored within separate tables that use unique key identifiers to build relationships between these entities.
* **relationship**Defines the association between two entities and binds them.
* **report**A document that contains a formatted result of a user’s query.
* **row (record, tuple)** The component of a table that holds distinct units of data identified using unique strings of numbers or characters.
* **secondary (alternative) key** A field with values that contains nonunique data and that can refer to several records at one time.
* **secondary data file** An optional data file found within an SQL Server database that is not a primary data file.
* **sort (control) key** A field in which values are used to sequence data.
* **storage engine** A component of the MySQL database architecture that reads and writes data to and from the database and offers services to enable customization of an environment.
* **storage management** Refers to the process of storing and retrieving data throughout the database.
* **System Global Area (SGA)** The central area where all shared data and processes are stored, including information shared by users and database processes.
* **table** One of the most basic units of storage within a database, typically representing unique and specific data objects.
* **Tabular Data Stream (TDS)** A Microsoft-defined protocol that describes the specifications as to how the SQL Server and a client can communicate.
* **thread** A process that runs independently from other process. It utilizes a portion of the CPU and contains tasks or executions that share the same resources, yet run independently from one another.
* **transaction** The group of statements or operations processed by a database to execute a user’s request to update or change the database.
* **transaction manager** A component of the MySQL database architecture that is responsible for avoiding and resolving deadlocks and corrupted data.
* **user-defined filegroup** A collection of files created by a user.
* **virtual address space** The complete virtual memory area allotted to a program.
* **virtual memory** A technique for extending the availability of memory by which units of storage located on different memory devices are used to store data from one entity in such a way that it appears as though the data has been stored in one continuous block of the same memory.
* **worker process** A pool of either threads or fibers that SQL Server keeps for all user connections.