11ED
Glossary

Chapter 3

candidate key	A minimal superkey; that is, a key that does not contain a subset of attributes that is itself a superkey.
closure	A property of relational operators that permits the use of relational algebra operators on existing tables to produce new relations.
composite entity	An entity designed to transform an M:N relationship into two 1:M relationships. The composite entity's primary key comprises at least the primary keys of the entities that it connects.
composite key	A multiple-attribute key.
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.
dependent	An attribute whose value is determined by another attribute.
determinant	Any attribute in a specific row whose value directly determines other values in that row.
determination	The role of a key. In the context of a database table, the statement ?A determines B? indicates that knowing the value of attribute A means that the value of attribute B can be looked up.
domain	In data modeling, the construct used to organize and describe an attribute's set of possible values.
entity integrity	The property of a relational table that guarantees each entity has a unique value in a primary key and that the key has no null values.
equijoin	A join operator that links tables based on an equality condition that compares specified columns of the tables.
flags	Special codes implemented by designers to trigger a required response, alert end users to specified conditions, or encode values. Flags may be used to prevent nulls by bringing attention to the absence of a value in a table.
foreign key (FK)	An attribute or attributes in one table whose values must match the primary key in another table or whose values must be null.
full functional dependence	A condition in which an attribute is functionally dependent on a composite key but not on any subset of the key.
functional dependence	Within a relation R, an attribute B is functionally dependent on an attribute A if and only if a given value of attribute A determines exactly one value of attribute B. The relationship ?B is dependent on A? is equivalent to ?A determines B,? and is written as AB.
homonym	The use of the same name to label different attributes. Homonyms generally should be avoided. Some relational software automatically checks for homonyms and either alerts the user to their existence or automatically makes the appropriate adjustments.
index	An ordered array of index key values and row ID values. Indexes are generally used to speed up and facilitate data retrieval.
inner join	A join operation in which only rows that meet a given criterion are selected. The join criterion can be an equality condition or an inequality condition. The inner join is the most commonly used type of join.
join column(s)	Columns that join two tables. The join columns generally share similar values.
key	An entity identifier based on the concept of functional dependence; keys may be classified in several ways.

key attribute	The attributes that form a primary key.
left outer join	In a pair of tables to be joined, a join that yields all the rows in the left table, including those that have no matching values in the other table. For example, a left outer join of CUSTOMER with AGENT will yield all of the CUSTOMER rows, including the ones that do not have a matching AGENT row.
linking table	In the relational model, a table that implements an M:M relationship.
natural join	A relational operation that links tables by selecting only the rows with common values in their common attribute.
null	In SQL, the absence of an attribute value. Note that a null is not a blank.
outer join	A relational algebra JOIN operation that produces a table in which all unmatched pairs are retained; unmatched values in the related table are left null.
predicate logic	Used extensively in mathematics to provide a framework in which an assertion can be verified as either true or false.
primary key (PK)	In the relational model, an identifier composed of one or more attributes that uniquely identifies a row. Also, a candidate key selected as a unique entity identifier.
referential integrity	A condition by which a dependent table's foreign key must have either a null entry or a matching entry in the related table. Even though an attribute may not have a corresponding attribute, it is impossible to have an invalid entry.
relational algebra	A set of mathematical principles that form the basis for manipulating relational table contents; the eight main functions are SELECT, PROJECT, JOIN, INTERSECT, UNION, DIFFERENCE, PRODUCT, and DIVIDE.
relvar	Short for relation variable, a variable that holds a relation. A relvar is a container for holding relation data, not the relation itself.
right outer join	In a pair of tables to be joined, a join that yields all of the rows in the right table, including the ones with no matching values in the other table. For example, a right outer join of CUSTOMER with AGENT will yield all of the AGENT rows, including the ones that do not have a matching CUSTOMER row.
secondary key	A key used strictly for data retrieval purposes. For example, customers are not likely to know their customer number, but the combination of last name, first name, middle initial, and telephone number will probably match the appropriate table row.
set theory	A part of mathematical science that deals with sets, or groups of things, and is used as the basis for data manipulation in the relational model.
superkey	An attribute or attributes that uniquely identify each entity in a table.
synonym	The use of different names to identify the same object, such as an entity, an attribute, or a relationship; synonyms should generally be avoided.
system catalog	A detailed system data dictionary that describes all objects in a database.
theta join	A join operator that links tables using an inequality comparison operator in the join condition.
tuple	In the relational model, a table row.
union-compatible	Two or more tables that share the same column names and have columns with compatible data types or domains.
unique index	An index in which the index key can have only one associated pointer value.