What is Relational Model?

The **relational model** (**RM**) for [database](https://en.wikipedia.org/wiki/Database) management is an approach to managing data using a structure and language consistent with [first-order predicate logic](https://en.wikipedia.org/wiki/First-order_logic), first described in 1969 by [Edgar F. Codd](https://en.wikipedia.org/wiki/Edgar_F._Codd), where all data is represented in terms of [tuples](https://en.wikipedia.org/wiki/Tuple), grouped into [relations](https://en.wikipedia.org/wiki/Relation_(database)). A database organized in terms of the relational model is a [relational database](https://en.wikipedia.org/wiki/Relational_database).

In the relational model, all data must be stored in relations (tables), and each relation consists of rows and columns. Each relation must have a header and body. The header is simply the list of columns in the relation. The body is the set of data that actually populates the relation, organized into rows. You can extrapolate that the junction of one column and one row will result in a unique value - this value is called a tuple.  
  
The second major characteristic of the relational model is the usage of keys. These are specially designated columns within a relation, used to order data or relate data to other relations. One of the most important keys is the primary key, which is used to uniquely identify each row of data. To make querying for data easier, most relational databases go further and physically order the data by the primary key. Foreign keys relate data in one relation to the primary key of another relation.  
  
Besides defining how the data are to be structured as discussed above, the relational model also lays down a set of rules to enforce data integrity, known as integrity constraints. It also defines how the data are to be manipulated (relational calculus). In addition, the model defines a special feature termed normalization to ensure efficient data storage.