WEB335 – Discussion 1.1 – Relational Databases

In reference to relational databases, a relationship is a connection or association between two or more tables of data that have related data.[[1]](#footnote-1) An example would be where you have a table that lists company managers and the departments they head and another table that lists employees and their managers. The link between the two tables are the managers. The association is made through the use of a common ‘key’, which is basically just a matching row between the tables[[2]](#footnote-2). The key works as follows: On the table listing managers, there would be a column of ids for each manager, usually numbers. This would be the primary key. Then on the table listing employees, that manager id would be listed in the tuple (row) for each of that manager’s employees. In this situation, the key would be called a foreign key. The key is what links the data together so you can, say, figure out which department a certain employee is in.

The main advantage of a relational database is its use of SQL as a querying language[[3]](#footnote-3). SQL queries are generally written in plain English, making it easy for a user to retrieve and manipulate data in the database. A related advantage is the fact that a user does not have to navigate through some sort of hierarchy and that the user can retrieve data from more than one table in a query[[4]](#footnote-4). A relational database is also flexible in that changes can be made to the tables and columns without impacting the whole database and that a theoretical unlimited number of rows and columns can be added to the database.

A major disadvantage of a relational database is the cost of setting up and maintaining such a database, which involves buying software and hiring trained people to implement and manage it, as well as the cost of securing the information in the database[[5]](#footnote-5). This generally means that only larger businesses can use them. Also, a relational database usually has limits on the length of the data you can put in any particular data field. If you have more information than is allowed in that field, that information can’t be saved in the database. Finally, there is a risk of losing information due to having a large number of tables or moving the data from one system to another.

One particular feature of MySQL, one of the most common versions of SQL, is the ability to delete records that are in the table. To delete a record, you would type DELETE FROM *table\_name*. You can also filter the records deleted by typing DELETE FROM *table\_name* WHERE *clause*. So if you wanted to delete an employee with an id of 1000 from a table listing employees, you might type DELETE FROM employee\_tbl WHERE employee\_id=1000. This feature makes managing records in a relational database very easy.

1. (No author). (2016, May 24). What Is A Relationship? (article). Retrieved from <https://database.guide/what-is-a-relationship/> [↑](#footnote-ref-1)
2. Mike Chapple. (2019, Mar 05). Introduction To Database Relationships (article). Retrieved from <https://www.lifewire.com/database-relationships-1019729> [↑](#footnote-ref-2)
3. Manali Oak. (2018, Feb 17). Advantages Of Relational Databases (article). Retrieved from <https://techspirited.com/advantages-of-relational-databases> [↑](#footnote-ref-3)
4. Deborah Lee Soltesz. (No date). What Are The Advantages Of A Relational Database Model? (article). Accessed 2019, May 01. Retrieved from <https://www.techwalla.com/articles/what-are-the-advantages-of-a-relational-database-model> [↑](#footnote-ref-4)
5. David Weedmark. (Last updated 2018, Dec 04). What Are The Limitations Of Relational Databases In Business Applications? (article). Retrieved from <https://smallbusiness.chron.com/limitations-relational-databases-business-applications-24159.html> [↑](#footnote-ref-5)