[Introduction to Visualization](https://www.section.io/engineering-education/aggregation-in-dbms/#introduction-to-database-management-systems-dbms)

*What is a database and DBMS?*

A database is an organized and structured collection of data.

To create, manipulate, and update a database, a system is needed to organize and execute all these activities - that system is called a DBMS (Database management system)

The simplest Database management system you use frequently is the file management system on your computer:

Data is stored in files, and files are stored in directories, and all directories (folders) are stored in another folder, until you reach a root directory (C drive), the head of this hierarchical scheme.

*What is Aggregation?*

Aggregation is a process by which trivial entities are linked with meaningful entities by a relationship

*Difference between data and database?*

Data is information. It is your height, the color of your shorts, the size of your shoes. It is your birthday, or favorite food. All that is data pertaining to you. You can see that not only does data (**accessible information**) surround us, but data is amorphous. A database organizes data into a shape such as a table or set of tables - this is why a table is sometimes referred to as a *relation*, as it relates information about an entity (such as you or me) all together into a single record.

All queries begin with SELECT statement

| **Clause** | **Purpose** |
| --- | --- |
| HAVING | Added to SQL because WHERE clause cannot work on the level of aggregration  <https://www.w3schools.com/sql/sql_having.asp> |
|  |  |
| GROUP BY | Condenses all records with shared value of a column into one record |
|  |  |
| count(\*) or count(column) | All count does is create a column with the total number of non-null records |
|  |  |

HAVING clause was added to SQL