**COMMON COMMANDS:**

* USE - This allows you to select the database you wish to use

**Rule of Breaking Down Tables**

If there is duplicated data, that is a sign that tables can be broken down further.

**Best Practise**

1. Ensure tables are labelled so people have an idea of the content before reading the table.
2. Duplicated data is to be avoided.
3. Primary keys are part of the design and should be chosen so that it wont change in the future. Must be permanent and static.

**Definitions**

1. **Foreign Keys** - Foreign keys are the columns of a table that points to the primary key of another table. They act as a cross-reference between tables.
2. **One to One relationship** - Where there is one row in one entity can be linked to only one row in another entity.
3. **One to Many Relationship** - In a relational database, a one-to-many relationship exists when one row in table A may be linked with many rows in table B, but one row in table B is linked to only one row in table A. (EXAMPLE: One customer can have many purchases)
4. **Many to Many Relationship -** A many-to-many relationship refers to a relationship between tables in a database when a parent row in one table contains several child rows in the second table, and vice versa. Many-to-many relationships are often tricky to represent. (EXAMPLE: A database used by a school application can be taken as an example. Two of the tables it contains are "Student" and "Subject." In real life, a student will take several subjects simultaneously, while a subject will be studied by several students at a time. This is a many-to-many relationship.)
5. **Junction Table** - When you need to establish a many-to-many relationship between two groups, the simplest solution is to use a Junction Table.

A Junction Table (sometimes referred to as a "Bridge Table") is a table that contains references to both groups; bridging them together. (Example: Where there is a many to many relationship you can make a junction table with the primary keys of the tables, then form a junction table. This table then forms a **composite primary key.**

1. **Candidate Primary key** - If there are multiple choices for being a primary key, then all the options are called candidates for being the primary key
   * **Nhs id**/national insurance id – two unique identifiers

**Composite primary key**; combines more than one field (columns) to make a unique value – 2 or more columns that can uniquely identify the rest of a table it can be used as a primary key or also known as a composite primary key

Junction table - is a table that contains references to both groups; bridging them together. For example: A school includes two groups: Students and Classes. One student can attend many classes, and one class can contain many students. Hence, the "many-to-many" relationship between students and classes.