

Normalisation of a database

A serial database: Serial means that the data is in an ordered structure

Sequential means the database is ordered by a particular field. E.g. ordering a database of people by surname (alphabetical)

Indexing = An index is a **data structure** used to shorten the length of time it takes to search a database. It allows the user to gain access to specific locations that are indexed in a file.

For example, the index might contain the 'surname' column of a database. This would mean that when you are searching for a student if you know their surname and their student ID, you can find the information you want much faster. This is similar to a contents page.

First normal form

Rule 1: Eliminate duplicate columns from the same table.

Rule 2: Create separate tables for each group of related data

Rule 3: Identify a column or combination that will uniquely identify each of the records in a table. i.e. Define and create primary keys in each table.

Second normal form

Rule 1: Check the data is in first normal form.

Rule 2: Remove any data sets that occur in multiple rows and transfer them to new tables.

Rule 3: Only at second normal form will the relationships be created between the separate tables (old and new) by means of a foreign key.

Third normal form

Rule 1: Check the data is in second normal form.

Rule 2: Remove any columns that are not dependant on the primary key.