Indexing

Suppose you visit a pharmacy shop and want to buy Paracetamol. The medicines are arranged in a particular order and therefore the pharmacist is able to search and provide you with the medicine very quickly. This ordering of medicines for optimising search algorithms is known as indexing. Let's try to understand it better.

What is indexing?

Indexing is a process by which queries and other database operations can be optimised by minimising the time required for processing the query. B-trees data structure is used to store the indexes. Indexing should only be used if the data is huge and the application is read-intensive. If an application is write intensive indexing might lower the performance of write operation.

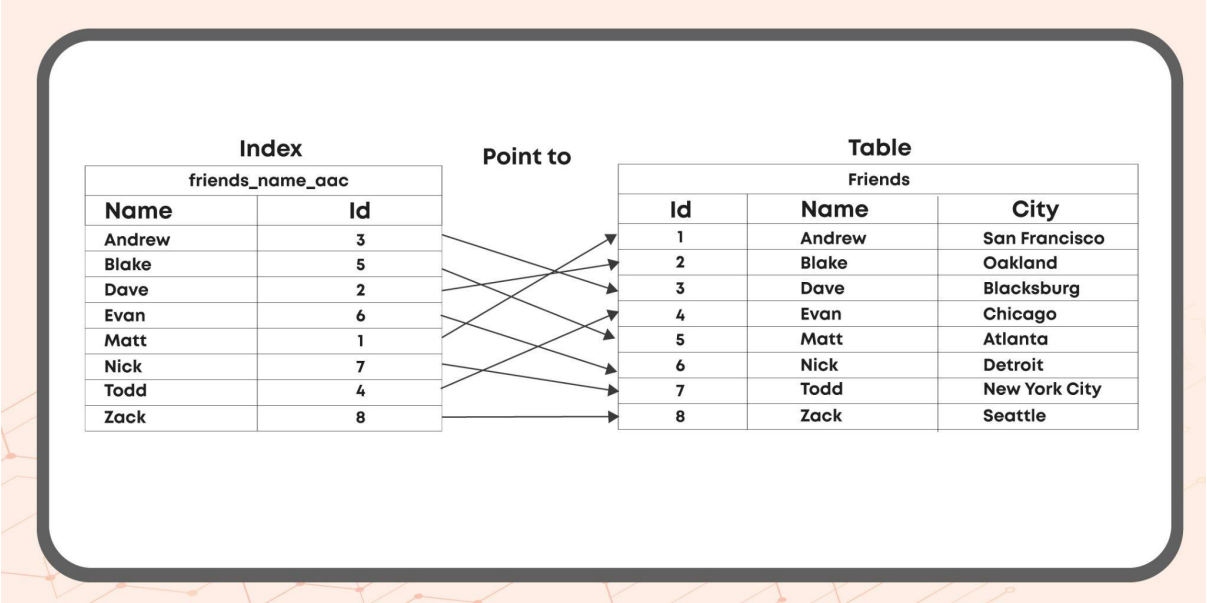

Fig: Example of Indexing in a table

How does indexing help?

Indexing has multiple advantages like:

1. Faster SELECT query
2. Helps to remove duplicates from a row or make the row unique.
3. For fill-text index, we can search against large string values like finding the string for a substring.

Disadvantages of indexing

1. Requires additional space for indexing elements
2. It slows down the Insert, update and deletes query because during updating the index should also be updated but speeds up the update if the where conditions take an indexed field.